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Earned Value Management Implementation Guide

Purpose: This guide provides the uniform procedures which have been approved by the Commander, Defense Contract Management Command (DCMC) under assigned authority as the Department of Defense's Executive Agent for Earned Value Management Systems. This document has been coordinated by SAF/AQ, SAF/FM, ASA(RDA), ASN(RD&A), BMDO/PO, NSA/CSS, and DCAA. This document provides guidance to be used during the implementation and surveillance of Earned Value Management Systems (EVMS) established in compliance with DoD Criteria. Users of this guide are encouraged to submit recommendations for refined procedures, through appropriate channels, to DCMC for consideration.

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PART I: EARNED VALUE MANAGEMENT CONCEPTS & CRITERIA

1-0. The purpose of this Part of the guide is to provide guidance for understanding earned value management concepts, define objective criteria for earned value management systems and provide guidance in interpreting those criteria for use on large, risky, cost based government programs. Procedural aspects for Government personnel for specifying and using earned value management systems and for evaluating those systems are contained in Part II.

Section 1 Earned Value Management

1-1. Concepts of Earned Value Management. Earned value management is a tool that allows both government and contractor program managers to have visibility into technical, cost, and schedule progress on their contracts. The implementation of an earned value management system is a recognized function of program management. It ensures that cost, schedule and technical aspects of the contract are truly integrated.

1-2. Management Needs. A fundamental requirement of the acquisition and/or modification of major systems is insight into contractors' progress for program management purposes. The implementation of an earned value management system (EVMS) on selected contracts within applicable government programs ensures the program manager is provided with contractor cost and schedule performance data which:

- (1) relate time-phased budgets to specific contract tasks and/or statements of work;
- (2) indicate work progress;
- (3) properly relate cost, schedule and technical accomplishment;
- (4) are valid, timely, and auditable;
- (5) supply managers with information at a practical level of summarization; and
- (6) are derived from the same internal earned value management systems used by the contractor to manage the contract.

1-3. Criteria Concept. No single earned value management system can meet every management need for performance measurement. Due to variations in organizations, products, and working relationships, it is not feasible to prescribe a universal system for cost and schedule control, relative to the scope of the contract. The criteria approach establishes the framework within which an adequate integrated cost/schedule/technical management system will fit.

The Earned Value Management Criteria (Section 2) provide the criteria for determining whether contractors' earned value management systems are acceptable. The criteria are general in nature to facilitate their use in the evaluation of contractors' earned value management systems for development, construction, and production contracts. Since these types of contracts tend to differ significantly, it is difficult to provide detailed guidance that will apply specifically in all cases. The criteria should be applied appropriately based on common sense and practicality, as well as sensitivity to the overall requirements for performance management. The procedures described in this document provide a basis to assist the government and the contractor in implementing an acceptable earned value management systems.

The criteria concept does not describe a system! Neither does it purport to address all of a contractor's needs for day-to-day or week-to-week internal control, such as informal communications, internal status reports, reviews, and similar management tools. These management tools are important and should augment and be derived from the earned value cost/schedule management system and should be an effective element of program management by both the contractor and the government.

1-4. Industry Standards. Industry recognizes the importance of earned value in program management, and has developed an industry based standard "Earned value Management System Guidelines" for applying earned value. The 32 Guidelines from this industry standard have become the Department of Defense baseline for earned value management systems.

1-5 Management Systems. In designing, implementing and improving the earned value management system, the objective should be to do what makes sense. The management system that meets the letter of

the criteria but not their intent will not support management's needs. Earned value management systems that comply with the intent of the criteria will facilitate:

- (1) thorough planning;
- (2) timely baseline establishment and control;
- (3) information broken down by product as well as by organization or function;
- (4) objective measurement of accomplishment against the plan at levels where the work is being performed;
- (5) summarized reporting to higher management for use in decision-making;
- (6) reporting discipline;
- (7) analysis of significant variances; and,
- (8) the implementation of management actions to mitigate risk and manage cost and schedule performance.

These are all inherent features of a good earned value management system.

1-6. System Design and Development.

The responsibility for developing and applying the specific procedures for complying with these criteria is vested in the contractor. The proposed earned value management system is subject to government acceptance which may include contractor self-evaluation with government involvement, third party accreditation, or government review. In instances where the contractors' system does not meet the intent of the criteria, adjustments necessary to achieve compliance must be made by the contractor.

Contractors have flexibility under the criteria approach to develop a system most suited to management needs. This approach allows contractors to use earned value management systems of their choice, provided they meet the criteria. Earned value management systems that range from fully manual processes to totally automated (paperless) systems are acceptable. Contractors are encouraged to establish and maintain innovative, cost effective processes, and to improve them continuously.

When the solicitation document, e.g. request for proposal, request for quotation, etc., specifies application of the criteria, an element in the evaluation of proposals will be the prospective contractor's proposed system for planning, controlling and reporting contract performance. The prospective contractor will describe the systems to be used in sufficient detail to permit its evaluation for compliance with the criteria. A discussion of both government and contractor activities during the period prior to contract award is contained in Part II, Section 2, Pre-contract Activities.

Upon award of the contract, the earned value management system description will be the basis upon which the contractor will demonstrate its application in planning and controlling the contract work. The government will rely on the contractors' systems when they are accepted and will not impose duplicative planning and control systems. Contractors having systems previously accepted are encouraged to maintain and improve the essential elements and disciplines of the systems. Part I, Section 3 contains a discussion of the criteria and their relationship to generic management processes. The proposed system description should describe the contractor's management processes as they relate to the criteria.

The cost of implementing EVMS has defied quantification due to the difficulty in separating the incremental cost of EVMS from the normal management costs that would have been incurred in any case. Improper implementation imposes an unnecessary financial burden on the contractor and the government. Typical areas where cost could be mitigated include selecting the proper levels for management and reporting, variance analysis requirements, and the implementation of effective surveillance activities. Surveillance activities are discussed in Part II, Section 3.

Government managers should recognize that effective management by the contractor normally does not require product-oriented cost reporting, in addition to cost reporting by contractor organization. Contractors should recognize the government's need for product-oriented information on contracts that involve substantial cost, schedule or technical risk. Differences arising from these divergent needs, such as the level of reporting detail required, should be discussed during contract negotiations. While the criteria are not subject to negotiation, many problems concerning timing of EVMS implementation and related reporting requirements can be avoided or minimized through negotiation.

1-7. Conclusion. The criteria and associated reporting requirements have proved their value over many years. The criteria approach ensures that contractors have and use adequate management systems that

integrate cost, schedule and technical performance. This approach also provides better overall planning and control discipline on government contracts. The associated cost performance reports summarize objective data from contractors' internal systems for contractor and government managers. Substantive improvements in management can be achieved by senior management and the program manager taking accountability for system effectiveness and use. A criteria compliant system, properly used, ensures that valid cost, schedule and technical progress information provide the manager with an effective tool for decision making.

1-8. Uniform Guidance. This document provides uniform guidance for government agencies responsible for evaluating the implementation of Earned Value Management Systems. It uses the concepts contained within the criteria as defined in DoD Instruction 5000.2-R, Appendix VI, Earned Value Management System Criteria and Section 2.0 of the industry standard, "Earned Value Management System Guidelines." The contents of this guide were developed jointly by DoD, FAA and NASA. Within this guide the term "criteria" is synonymous with EVMS Criteria or EVMS Guidelines.

1-9. Revisions and Additions. Persons using this guide are encouraged to submit suggestions for improvements to HQ/DLA/AQOF, 8725 John J. Kingman Road, Suite 2546, Ft. Belvoir VA 22062-6221.

Section 2

Criteria

2-0 The Department of Defense has formally recognized 32 Criteria as defining acceptable Earned Value Management Systems Requirements. The Criteria are those from the industry standard Earned Value Management Systems Guidelines, August 1996, and are published in DoD 5000.2-R, Appendix VI. Contractors with systems formally recognized by the DoD as meeting the 35 Cost/Schedule Control Systems Criteria prior to December 1996 will be considered as compliant with the 32 EVMS criteria.

The Criteria represent the requirements against which the validity of contractors Earned Value Management Systems will be judged. The Criteria approach continues to provide contractors the flexibility to develop and implement effective management systems tailored to meet their respective needs, while still ensuring fundamental Earned Value Management concepts are provided for. The Criteria are reproduced below.

EARNED VALUE MANAGEMENT SYSTEM CRITERIA

Organization

- 2.1. Define the authorized work elements for the program. A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process.
- 2.2. Identify the program organizational structure including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled.
- 2.3. Provide for the integration of the company's planning, scheduling, budgeting, work authorization and cost accumulation processes with each other, and as appropriate, the program work breakdown structure and the program organizational structure.
- 2.4. Identify the company organization or function responsible for controlling overhead (indirect costs).
- 2.5. Provide for integration of the program work breakdown structure and the program organizational structure in a manner that permits cost and schedule performance measurement by elements of either or both structures as needed.

Planning and Budgeting

- 2.6. Schedule the authorized work in a manner which describes the sequence of work and identifies significant task interdependencies required to meet the requirements of the program.
- 2.7. Identify physical products, milestones, technical performance goals, or other indicators that will be used to measure progress.
- 2.8. Establish and maintain a time-phased budget baseline, at the control account level, against which program performance can be measured. Budget for far-term efforts may be held in higher level accounts until an appropriate time for allocation at the control account level. Initial budgets established for performance measurement will be based on either internal management goals or the external customer negotiated target cost including estimates for authorized but undefinitized work. On government contracts, if an over target baseline is used for performance measurement reporting purposes, prior notification must be provided to the customer.
- 2.9. Establish budgets for authorized work with identification of significant cost elements (labor, material, etc.) as needed for internal management and for control of subcontractors.

2.10. To the extent it is practical to identify the authorized work in discrete work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far term effort in larger planning packages for budget and scheduling purposes.

2.11. Provide that the sum of all work package budgets plus planning package budgets within a control account equals the control account budget.

2.12. Identify and control level of effort activity by time-phased budgets established for this purpose. Only that effort which is unmeasurable or for which measurement is impractical may be classified as level of effort.

2.13. Establish overhead budgets for each significant organizational component of the company for expenses which will become indirect costs. Reflect in the program budgets, at the appropriate level, the amounts in overhead pools that are planned to be allocated to the program as indirect costs.

2.14. Identify management reserves and undistributed budget.

2.15. Provide that the program target cost goal is reconciled with the sum of all internal program budgets and management reserves.

Accounting Considerations

2.16. Record direct costs in a manner consistent with the budgets in a formal system controlled by the general books of account.

2.17. When a work breakdown structure is used, summarize direct costs from control accounts into the work breakdown structure without allocation of a single control account to two or more work breakdown structure elements.

2.18.. Summarize direct costs from the control accounts into the contractor's organizational elements without allocation of a single control account to two or more organizational elements.

2.19. Record all indirect costs which will be allocated to the contract.

2.20. Identify unit costs, equivalent units costs, or lot costs when needed.

2.21. For EVMS, the material accounting system will provide for:

(1) Accurate cost accumulation and assignment of costs to control accounts in a manner consistent with the budgets using recognized, acceptable, costing techniques.

(2) Cost performance measurement at the point in time most suitable for the category of material involved, but no earlier than the time of progress payments or actual receipt of material.

(3) Full accountability of all material purchased for the program including the residual inventory.

Analysis and Management Reports

2.22. At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:

- (1) Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.
- (2) Comparison of the amount of the budget earned the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.

2.23. Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management.

2.24. Identify budgeted and applied (or actual) indirect costs at the level and frequency needed by management for effective control, along with the reasons for any significant variances.

2.25. Summarize the data elements and associated variances through the program organization and/or work breakdown structure to support management needs and any customer reporting specified in the contract.

2.26. Implement managerial actions taken as the result of earned value information.

2.27. Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements.

Revisions and Data Maintenance

2.28. Incorporate authorized changes in a timely manner, recording the effects of such changes in budgets and schedules. In the directed effort prior to negotiation of a change, base such revisions on the amount estimated and budgeted to the program organizations.

2.29. Reconcile current budgets to prior budgets in terms of changes to the authorized work and internal replanning in the detail needed by management for effective control.

2.30. Control retroactive changes to records pertaining to work performed that would change previously reported amounts for actual costs, earned value, or budgets. Adjustments should be made only for correction of errors, routine accounting adjustments, effects of customer or management directed changes, or to improve the baseline integrity and accuracy of performance measurement data.

2.31. Prevent revisions to the program budget except for authorized changes.

2.32. Document changes to the performance measurement baseline.

Section 3 Criteria Discussion

3-0. General Information. The Criteria provided in Section 2 of this Guide as well as in Appendix VI of DoD 5000.2-R represent the Earned Value Management System (EVMS) requirements to be levied on contractors. The criteria provided in Section 2 establish basic characteristics a good EVMS should have. This section is intended to provide GUIDANCE on interpreting the Criteria requirements.

The five sections of the criteria: Organization, Planning and Budgeting, Accounting, Analysis, and Revisions and Data Management, address basic management concepts. Management processes that include organizing, scheduling, work/budget authorization, etc., however, tend to cut across the five sections.

In this section of the guide, the 32 Criteria in Section 2 have been regrouped to facilitate a process approach. There are nine processes described below: Organizing, Scheduling, Work/Budget Authorization, Accounting, Indirect Management, Managerial Analysis, Change Incorporation, Material Management and Subcontract Management. For example, the criteria statements that relate to the organization process of an earned value management system are grouped together. Note that some criteria relating to multiple processes, such as criterion 9, the "element of cost" criterion, are repeated for each process where appropriate. A matrix showing the processes and criteria interplay is provided in Table 3-1. The processes used here are indicative of those in common use, but individual contractor systems may be structured differently and still meet the Criteria requirements.

3-1. Organizing. The organizing process is concerned principally with: ensuring that each part of the earned value management system is properly established; defining the work required to be performed; assigning the tasks to organizations responsible for performing the work, including major subcontractors; facilitating the collection and development of information for management purposes; and identifying organizational resources that facilitate the preparation of accurate and timely estimates of project cost and schedule completion.

3-1.a. Defining the Work. The statement of work for the project should reflect all work to be performed. A critical aspect is to establish organizational responsibility for segments of the work and to define in-house effort versus subcontracted effort. The work breakdown structure established for the project should not be extended to unreasonably low levels, since this could affect management flexibility.

Where an EVMS requirement is applied to subcontracted effort, the level of detail in a subcontract project statement of work and the work breakdown structure is independent of the level of detail in the prime contract. It is also independent of the level of the prime contract WBS or project element into which it feeds. The sub-contract WBS should be dependent on the needs of program management.

3-1.b. Assigning Organizational Responsibility. The Organizational Breakdown Structure (OBS) reflects the way the project is functionally organized. To assign work responsibility to appropriate organizational elements, any WBS and organizational structure must be interrelated with each other; that is, organizational responsibility must be established for identified units of work. The assignment of lower level work segments to responsible lower level managers provides a key control point for management purposes and cost collection. This is called the control account (CA).

When effort is to be subcontracted out, the applicable subcontractor is identified and related to the appropriate WBS element(s) and/or organization charged with acquiring the subcontracted item.

3-1.c. Ensure Management Subsystems Integration. The control account is the main action point for planning and control of effort. All aspects of the system come together at this point including budgets, schedules, work assignments, cost collection, progress assessment, problem identification, and corrective actions. Most management actions taken occur as a result of significant problems identified at this level. The control account levels should be determined by the scope of the management tasks. The proper levels should not simply be an arbitrary determination or the result of one "across-the-board"

CRITERION	PROCESS GROUPING								
ORGANIZATION	ORGANIZING	SCHEDULING	WORK/BUDGET AUTHORIZATION	ACCOUNTING	INDIRECT MANAGEMENT	MANAGERIAL ANALYSIS	CHANGE INCORPORATION	MATERIAL MANAGEMENT	SUBCONTRACT MANAGEMENT
1	X								
2	X								X
3	X								
4					X				
5	X								
PLANNING & BUDGETING									
6		X							
7		X							
8			X		X				
9	X		X					X	X
10	X		X					X	X
11			X						
12			X					X	X
13					X				
14			X						
15			X						
ACCOUNTING									
16				X					X
17				X					
18				X					
19					X				
20				X					
21								X	
ANALYSIS									
22	X		X	X		X		X	X
23		X				X		X	X
24					X				
25						X			
26	X					X			
27	X				X	X		X	X
REVISIONS									
28							X		
29							X		
30				X			X		
31							X		
32							X		

FIGURE 3-1 CRITERIA PROCESS MATRIX

level for control accounts. Control accounts are usually located at levels consistent with the project's method of management.

3-1.d. Organize for Effective Performance Measurement. The control account in an earned value management system is the lowest level in the structure at which the comparison of actual costs to planned budgets and earned value are required. The cost collection point must be at a level which will identify the cost elements and factors contributing to cost and/or schedule variances. Managerial authority and responsibility for corrective action should exist at the control account level making it the key management control point in the system.

3-1.e. Authorize Responsible Organizations to Proceed with Work. Before work can proceed, scope and budget must be authorized to the responsible organizations. The contractor's program manager is given an internal authorization to proceed with contract work. Budgets and work scope then are divided among the program organizations. All authorized work must be associated with a corresponding budget.

3-1.f. Assignment of Performing Organizations. Work packages are natural subdivisions of control accounts and constitute the basic building blocks used in planning, controlling, and measuring project performance. A work package is simply a low-level task or job assignment. It describes the work managed by a specific performing organization and serves as a vehicle for monitoring and reporting work progress. Effective control and completion of the work requires that each work package be assigned to only one performing organization. Establishing and maintaining control at the control account level permits flexibility in the management of resources at the lower detail levels through work package replanning.

When effort at the control account level cannot be adequately defined into work packages, the contractor may retain budget and scope in a planning package. This package must be assigned to an organization for maintenance and for detail planning into work packages at the earliest possible time.

3-1.g. Establish Organizational Responsibility for Resource Allocations. Organizations engaged in the performance of contract effort must periodically perform a comprehensive estimate of costs for the effort remaining. Project Management must periodically assess the sufficiency of resources versus the amount of work remaining. Responsibility for resource assignment to support program objectives must be clearly identified.

3-2. Scheduling. The scheduling process defines the schedule hierarchy that must be established to ensure proper, effective planning and statusing of all effort on the project.

3-2.a. Structuring Schedules for Program Management. Successful management requires the integration of the technical, schedule, and cost aspects of the program. Schedules that result from this integration show the planned time required to accomplish the technical scope of the contract. When projects experience problems in technical performance, either schedule delays, cost problems, or both may follow. An adequate scheduling system will facilitate the depiction of the plan to accomplish the technical scope, the actual technical progress against that plan, and estimates of the time required to complete the remaining technical scope. The schedule baseline, progress, and estimated time to complete all should readily integrate with the financial depiction (budgets, earned value, and estimated cost to complete) of the technical scope.

The scheduling system should contain a master schedule and related subordinate schedules which provide a logical sequence from the detail to the summary level. Intermediate schedules should be established if needed to provide a logical sequence from the detail level schedules to the master program schedule. The scheduling system must also provide for the identification of interdependencies between organizations and/or WBS elements at the level appropriate for efficient program management.

3-2.b. Incorporate Meaningful Progress Indicators. The scheduling system should cover all specified work and incorporate program milestones that are meaningful in terms of the technical requirements of the contract. It should provide schedules such that actual progress can be related to the plan and contain forecasts of expected future progress. Such schedules should identify key milestones and

activities which recognize significant constraints and relationships. A key feature of the scheduling system is that it establishes and maintains the relationship between technical achievement and progress status.

3-2.c. Evaluate Deviations from the Plan. Scheduling should interface with other elements of the EVMS to the extent necessary for measurement and evaluation of project status. The scheduling system should provide current status and forecasts of completion dates for all authorized work. The summary and detailed schedules should enable a comparison of planned and actual status of project accomplishment based on milestones or other indicators used for control purposes.

3-3. Work/Budget Authorization. This process addresses the requirements for the project organization to integrate budget and work planning requirements with the program schedules to ensure completion of contractual efforts.

3-3.a. The Performance Measurement Baseline (PMB).

3-3.a.1. Baseline Establishment. The assignment of budgets to scheduled segments of work produces a plan against which actual performance can be compared. This is called the performance measurement baseline (PMB). The establishment, maintenance, and use of the PMB are indispensable to effective performance measurement. The PMB should be in place as early as possible after authorization to proceed (ATP). The relationship of individual work tasks with the time-phased resources necessary to accomplish them is established at the control account level. When practicable, all control accounts should be planned, at least at a summary level, to the end of the contract. Any control accounts that cannot be established in the initial planning effort should have the critical defining event(s) necessary for planning identified and made an item of continuing management interest.

3-3.a.2. Summary Level Planning Packages (SLPP). When it is clearly impractical to plan authorized work in control accounts, budget and work should be identified to higher WBS or organizational levels for subdivision into CAs at the earliest opportunity. The budget for this effort must be identified specifically to the work for which it is intended, be time-phased, have its value periodically assessed, and have controls established to ensure this budget is not used in performance of other work. The maintenance of realistic budgets, directly tied to an established scope of work, is essential for each organization responsible for performing project effort. Eventually, all the work will be planned by specific organizational elements to the CA level. Planning horizons can be used to establish reasonable control account level assignments of work and budget. Summary level planning is not a substitute for early and definitive detail planning.

3-3.a.3. Authorized, Unpriced Effort. For authorized, unpriced work, the contractor should plan and budget near-term effort in control accounts, with the remaining effort and budget planned in SLPPs or maintained in undistributed budget (UB) during the period of negotiation. After definitization, the remaining effort will be planned and budgeted within control accounts as soon as practical.

3-3.b. Baselines in Excess of Contract Value. During the life of a project, situations may arise whereby available budgets for the remaining work are insufficient to ensure valid performance measurement. Under these circumstances, a requirement may exist for the total budget allocated to work to exceed the recognized Contract Budget Base (CBB). The resulting value is referred to as an Over-target Baseline (OTB). Establishment of an OTB may entail replanning future work, replanning in-process work, and/or adjusting variances (cost, schedule or both). This allows the project to increase the amount of budget for the remaining work to a more realistic amount to adequately provide for reasonable budget objectives, work control, and performance measurement.

A thorough analysis of contract status is necessary before the implementation of an OTB. The contractor should perform a detailed estimate of all costs necessary to complete the remaining effort. If the difference between the estimated cost to complete and the remaining budget is significant, the contractor will notify the appropriate parties of the need to increase the remaining budgets. It is imperative that the contractor consult with the Government Program Manager prior to implementing the overtarget baseline.

This consultation should include a discussion regarding project cost, schedule, funding and technical implications expected as a result of implementing the proposed OTB.

When the project managers are satisfied that the new baseline represents a reasonable plan for completing the contract, the new baseline becomes the basis for future performance measurement.

In implementing an OTB, the changes to baseline budgets must be fully documented and traceable. If variances are adjusted, their cumulative values before adjustment will be retained to ensure traceability. Establishment of management reserve within the OTB is acceptable.

OTBs or changes to OTBs should be limited to situations where needed to improve the quality of future cost and schedule performance management.

3-3.c. Authorizing Work and Budgets to the Responsible Organizations. Concurrent with the baselining process, the work authorization system should define and identify the work to be done by responsible organizational elements. Budget values, representing the time-phased valuation of the resources authorized to complete the assigned work, are also assigned to the responsible organizations. Schedules and budgets should be established and approved for all authorized work at the level determined most appropriate by the contractor.

3-3.d. Control Account Establishment. Since CA budgets and schedules also establish the constraints required for baseline control, care should be exercised in the establishment of CA budgets to ensure a viable scope/effort correlation and prevent front-loading of the baseline. When establishing control accounts, factors to consider should include: the natural flow of work at this management control point; significant contract events that will be supported by completion of the effort within the CA; the need to ensure objective measurement of progress by establishing shorter assessment periods; and, the rate structures to be applied to the CA resources.

3-3.e. Control Account Budgets. Each control account contains resources necessary to complete the assigned effort and budgets reflecting these resources. Budgets established at the control account level must be planned by element of cost.

(1) Budgets may be stated either in dollars, hours, or other measurable units.

(2) It is necessary to use rates that will provide a valid PMB. When there are significant changes in the anticipated labor, overhead, or other rates, internal replanning of remaining portions of the PMB is desirable, but not mandatory.

(3) In general, the budget process should provide for the following:

(a) Direct budgets allocated to organizations performing the planned work;

(b) Indirect budgets allocated to specific organizations having responsibility for controlling indirect costs; and

(c) Identification of any management reserves or undistributed budget.

3-3.f. Distribute the control account effort into work packages and planning packages. Effort contained within a CA is distributed into either work packages or planning packages. "Work package" is the generic term used to identify discrete tasks which have definable results. It may also be used for defined components of level of effort or apportioned effort work.

Work packages are single tasks assigned to a performing organization for completion. Work package descriptions must clearly distinguish one work package effort from another.

A key feature from the standpoint of evaluating accomplishment is the desirability of having discrete work packages that incorporate frequent, objective indicators of progress. Work packages should be natural subdivisions of CA effort. Each work package should result in a definable end-product or event. When work packages are relatively short, little or no assessment of work-in-process is required. As work package length increases, work-in-process measurement becomes more subjective, unless work packages are subdivided by objective indicators, such as, discrete milestones with preassigned budget values or completion percentages.

Work for a given CA which cannot be planned in detail at the outset, should be divided into larger segments and placed into planning packages within the CA. Planning packages are aggregates of future tasks and budgets, beyond the detail plan, which will be divided into work packages at the earliest practical point in time. Time-phased budgets assigned to planning packages (PPs) must be supported by a specified scope of work and this relationship must be maintained when detailed planning of the effort occurs.

3-3.g. Verification of Control Account Budgets. All control accounts must contain a budget, schedule, and scope of work and should realistically represent the manner in which work is assigned and budgeted to the organizational units. In all cases, the value of the budget assigned to individual work packages and planning packages within the CA must sum to the total value authorized for the CA.

3-3.h. Tie Work Package Budgets to Information in Supporting Systems. When progress will be measured through the use of a standards-based performance measurement system, a direct relationship between the standards planned and the budget for the associated effort must be established.

The contractor must establish a baseline plan for manufacturing work which includes time-phased budgets that are consistent with the schedules for the performance of the work. The performance measurement indicators (milestones, earned standards, scheduled output etc.) must be clearly identified and directly related to control accounts. They must be scheduled in a sequence which supports the achievement of contractual objectives. These indicators must clearly represent the accomplishment of an identifiable quantity of work within the CA and be assigned a value reflecting the planned cost of that work. These values must summarize to or reconcile with the total budget for the CA.

3-3.i Planning and Control of Level-of-Effort (LOE) activities. For discrete work packages accomplishment can be measured based on the completed pieces of work but LOE is "measured" through the passage of time. LOE activity should be separately identified from discrete work packaged effort to avoid distorting that which is measurable. Some general guidelines for LOE are:

(1) The amount of LOE activity will vary among performing organizations, but it should be held to the lowest practical level.

(2) LOE budgets should be separately substantiated and planned as direct labor, material/subcontract, or other direct costs. LOE activity should be budgeted on a time-phased basis for control and reporting purposes.

(3) When LOE and discrete effort are mixed within the same control account, the control account manager must ensure visibility into the performance of the discrete effort.

3-3.j Establish and Track Management Reserve and Undistributed Budget.

3-3.j.1. Management Reserve (MR). In most projects, particularly developmental activities, there is considerable uncertainty regarding the timing or magnitude of future difficulties. The use of MR provides the project manager with a capability to adjust for these uncertainties. Adequate identification and control of MR is necessary. MR budget and its use should always be accounted for at the total project level. Normally, it is retained and controlled at this level, although in some cases it might be distributed to and controlled at lower management levels. In any event, MR is maintained separately from undistributed budget. There is no such thing as "negative management reserve." Management reserve is not a contingency which can be eliminated from contract price during subsequent negotiations or used to absorb the cost of contract changes. The contractor should not be required to use existing management reserve to provide budgets for authorized, but undefinitized, work or other modifications to authorized contractual efforts.

3-3.j.2. Undistributed Budget (UB). Budgets applicable to contract effort, which cannot be specifically identified to WBS or organizational elements in a timely manner, are referred to as UB. The establishment of UB may be necessary when project changes are authorized too late in an accounting month to be distributed in that month. The budget should be distributed to appropriate WBS or organizational elements and CAs as quickly as possible. For authorized work which has not been negotiated, the project may maintain budgets in the UB account until negotiations have been concluded, allocating budget only to that work which will start in the interim. After negotiations, the remaining budget should be allocated appropriately.

3-3.k. Reconcile Budget Values to Contract Cost. After contract negotiations are completed, the total allocated budget used to report project performance must always represent the contract budget base value (or OTB, if approved). This is to force recognition of contractual requirements and to preclude

undisciplined changes to the performance measurement baseline. Total allocated budget (the PMB plus MR) equals the authorized contract target cost plus the estimated cost of authorized but unpriced work.

3-3.l. Budget Apportioned Effort as it will be Allocated. Apportioned effort is activity dependent on and related in direct proportion to the performance of other discrete effort. Factors established for the application of apportioned effort should be documented and applied in a formal, consistent manner. Apportioned effort should be limited to that which is genuinely related to discrete effort.

3-3.m. Earn Budget Values in the Same Manner the Budget was Established. In order to perform effective analysis of variances, it is required that earned value be objectively assessed using the same basis upon which the budget was planned and actual costs accumulated. In addition, labor, overhead, and other rates used to calculate earned value must be the same as for the associated budget. The major difficulty in the determining of earned value is the evaluation of in-process work (work packages which have been started but have not been completed at the end of the accounting period). The discrete value milestones within work packages will significantly reduce subjective work-in-process evaluation. The technique used to assess earned value will largely depend on work package content, size, and duration.

3-4 Accounting. The accounting system structure is defined by the contractor's Cost Accounting Standards Disclosure Statement. The intent of this discussion is to ensure there is a timely and accurate transfer of actual cost information from the accounting system into the earned value management system.

3-4.a. Establish an Accounting System Interface with the Earned Value Management System. The accounting system must be capable of accounting for all resource expenditures on an "applied" basis (i.e., on an "as-used" or "as-consumed" basis). This requirement creates few difficulties in the categories of direct labor (where time cards or other time measurement devices are used) or other direct charges (where services are rendered on some type of dollarized per-unit basis). In the area of material accountability, there is considerable variation among the respective processes of accounting for material usage. Recognizing the absence of uniformity in material methodologies, the CAS provides relaxed interpretations as to what constitutes an "applied" basis of material accounting, as well as alternatives for acceptance on an "other-than-applied" basis.

3-4.b. Ensure Accurate Summarization through the WBS. Allowable costs collected within the control account by element of expense must summarize from the control account level through the WBS used to the top level without being allocated to two or more higher-level elements. A carefully developed WBS and a corresponding cost collection structure should prevent any single element's data from being summarized to multiple higher-level elements. This does not preclude the allocation of costs from a CA obtaining common items or services to the appropriate using CAs.

3-4.c. Ensure Accurate Summarization through the OBS. The same requirement for accurate cost summarization applies to the project organization as well. The integrity of the data summarization begins at the CA level through the project structure to the highest-level organizational element without costs being allocated to two or more higher-level elements. This does not preclude the allocation of costs from a CA obtaining common items or services to the appropriate using CAs. Again, a carefully developed project structure and cost collection structure will assure accurate data summarization for management use.

3-4.d. Establish a Capability to Track Costs for Apportioned Effort. The system should ensure that actual costs for effort identified as apportioned are collected properly so that valid comparisons to the budgets for the apportioned effort may be made.

3-4.e. Unit/Lot Costs. The contractor may be required to account for the production of material items in a manner that facilitates development of unit costs, equivalent unit costs, or lot costs. This is normally a requirement of contracts where multiple units are being produced in a production or production-like environment.

There are acceptable alternatives to unit cost for specific circumstances unique to the production environment. When production effort occurs on an accelerated assembly line basis, it may not be practical

to determine the cost of individual units. In such situations, it is sufficient to accumulate "lot" costs, where a lot is an aggregate of a specified and consistent number of units. In those situations where production line effort yields substantially comparable units for more than a single customer, it is also difficult to establish the cost of specific units. It is sufficient under these circumstances to establish "equivalent unit costs" based on the assumption that, all things being alike, on a "mature" production run each unit's cost is approximately equal to every other unit's cost.

3-4.f. Use Accounting System Actuals for Variance Analysis. It is essential that all actual costs used for variance analysis come directly from, or be reconcilable with, the accounting system. In some cases, it may be necessary to use "estimated actuals" to avoid artificial variances which might be created by the time lag of costs being recognized by the accounting system.

3-4.g. Control Retroactive Changes to Actual Costs. Retroactive adjustments to costs should only be made for routine accounting adjustments or for correction of errors. Any direct or indirect cost adjustments must be made in a timely manner in accordance with Generally Accepted Accounting Principles (GAAP).

3-5 Indirect Management. This discussion pulls together those requirements that apply to the contractor's process of establishing, implementing, controlling and evaluating indirect budgets and costs that are incurred and allocated to the individual projects. Since indirect costs are normally handled in organizations that are not project peculiar, there should be some method for assigning the appropriate values for indirect budgets and actuals to all affected projects.

3-5.a Assign Managerial Responsibility for Indirect Cost. The contractor establishes an indirect budgeting process which includes the formal assignment of duties and limits of responsibility, a description of the indirect system, and policies and procedures applicable to the establishment and control of indirect costs. Assignment and control of the indirect resources must be clearly defined and should be commensurate with the authority to approve or to avoid the expenditure of resources.

3-5.b Include Indirect Budgets in the PMB. The PMB should include indirect budgets. Budgets should be included in the time-phased control account budgets, SLPP budgets, or UB. Irrespective of the level at which indirect budgets are allocated or assigned to the project, average indirect rates for the life of the contract or control account, may cause too much distortion in cost performance.

3-5.c Correlate Indirect Budgets with Project Activities. Realistic time-phased budgets and forecasts for indirect costs must be established by organization. The contractor should apply the most appropriate indirect rates so that a valid PMB can be established. Indirect budgets should be reviewed at least annually or when major changes are identified in factors affecting indirect costs.

3-5.d Collect Actual Indirect Costs for Allocation to Individual Contracts. Overhead costs represent expenses which benefit more than a single contract. The accounting process should record all allocable indirect costs consistent with the provisions of the contractor's disclosure statement. The contractor's procedures and/or EVMS description should specify the level at which indirect cost information will be allocated to individual contracts.

3-5.e Analyze Indirect Variances. The contractor establishes controls to ensure actual indirect costs are compared to indirect budgets and this information should be shared with all affected programs. Specific control procedures should be implemented to ensure variances are identified, reported, and addressed by the appropriate level of management. Such controls increase the likelihood that potentially significant variances are communicated and considered in the development of the project EAC.

3-5.f Ensure Most Accurate Rates are Used to Project Indirect Costs. The most current information should be used in preparing indirect rates, including historic experience, contemplated management improvements, projected economic escalation, and anticipated business volume. The use of these rates to generate indirect cost estimates will ensure a valid projection of project costs.

Comparing indirect budgets to estimates of final indirect costs will reveal where significant differences occur. These variances must be analyzed to determine the causes and appropriate corrective actions.

3-6 Managerial Analysis. Managerial analysis is the evaluation and feedback loop of the earned value management system. Management actions are determined, based on lower level analysis of problems, corrective actions are implemented, and their effect on cost and schedule performance are projected.

3-6.a Analyze Significant Variances at the Control Account Level. Analysis of deviations from planned activities provide management with visibility into needed actions to either return the project to plan or compensate for these deviations in cost, schedule or technical areas.

3-6.a.1 Significant Variances. Establish reasonable selection criteria to ensure proper analysis of all significant problems and not cause an excessive burden on the control account and mid-level managers. Use of meeting notes, minutes, or other material generated as normal function of the management process supports this analysis. The selection criteria should ensure all significant variances are analyzed and any external reporting requirements are supported.

3-6.a.2 Schedule Variance (SV). Comparing the value of work completed to the value of work scheduled during a given period of time provides a valuable indication of schedule status in terms of dollars worth of work accomplished. This variance may not, however, clearly indicate whether or not scheduled milestones are being met since some work may have been performed out of sequence or ahead of schedule. Schedule variance does not indicate whether a completed activity is a critical event or if delays in an activity's completion will affect the completion date of the contract. A formal time-phased scheduling system, therefore, must provide the means of determining the status of specific activities, milestones, and critical events.

3-6.a.3 Cost Variance. Comparisons of the cost of completed work with the value planned for that work provides a cost variance. Analysis of this differences reveals the factors contributing to the variances. Examples include poor initial estimate for the task, technical difficulties that required additional resources, the cost of labor or materials different than planned, differences between planned and actual rates, and personnel efficiency different than planned.

3-6.a.4 Variance at Completion. Comparisons of the total budget with the EAC at the control account level provides a variance expected at the completion of the control account. Control account managers need to be alert to circumstances which will affect the EAC and, therefore, the variance at completion (VAC). Managerial authority and responsibility for corrective action should exist at this level.

3-6.a.5 Required Analysis. Analysis of these variances is required at the control account level. Budgeting, measuring performance, and collecting costs by element of cost facilitates determining and reporting the reasons for significant variances in both the progress reviews and in the narrative portion of the external performance measurement report.

3-6.b Technical Achievement. Unfavorable cost or schedule conditions are usually caused by technical difficulties. Quantitative information as to technical status is desirable and should be supplemented by narrative reports. As work progresses, determine the adequacy and quality of the work performed by making inspections, tests, or other types of technical measurements. If the results are satisfactory and no corrective action is required, the work proceeds. If, on the other hand, deficiencies are found, consider alternatives for corrective action; for example, redesign, scrap and remake, rework, etc. When considering these alternatives, the impact on cost and schedule must be weighed in addition to the technical considerations. After an alternative is selected, it may become necessary to plan the additional work in terms of new work packages or additions to existing unopened work packages and to change the schedules affected. In some cases the project manager may choose to provide additional budget to the responsible organization. Thus, there is a close relationship between technical achievement and its impact on cost and schedule.

3-6.c Summarize Performance Data for Management Evaluation. Performance measurement information should be summarized directly from the appropriate level (control account or below) to provide both project status and organizational performance at all levels of management. This process supports an overall capability for managers to analyze available information and identify problem areas in sufficient time to take action. Because favorable variances in some areas are offset by unfavorable variances in other areas, higher level managers will normally see only the most significant variances at their level. The accumulation of many small variances which may add up to a large overall cost problem not attributable to any single major difficulty will also be evident.

3-6.d Take Effective Management Action as a Result of Analysis. Performance measurement is only one of the management tools available to project managers. Many major problems are disclosed through methods other than monthly performance measurement reports. The project's internal reports and the reports forwarded to their customer, however, should indicate the overall cost and schedule impacts of such problems on the project. Because of this, the data produced by the earned value management system must be available to managers on a timely basis and must be of sufficient quality to ensure that effective management decisions can be made as a result of its analysis. Procedures should exist to monitor decisions to the point of resolution.

3-6.e Generate Periodic Estimates At Completion. Periodically develop a comprehensive EAC at the control account level using all available information to arrive at the best possible estimate. This is done by (a) evaluating the efficiency achieved by performing organizations for completed work and comparing it to remaining budgets; (b) establishing a schedule forecast that reflects the expected time-frame for completing the remaining work; (c) considering all remaining risk areas on the project versus cost avoidance possibilities; (d) ensuring the most current direct and indirect rate structure is used to value the projected resources; and, (e) applying this analysis to future efforts to derive the most accurate estimate.

Comparisons of this estimate to budgets for the associated effort must be made frequently enough for management to ensure project performance and resource availability will not be adversely impacted. Monthly maintenance of the CA level EAC by the control account manager ensures that the EAC continuously reflects a valid projection of project costs.

3-7 Change Incorporation. Changes in major projects are inevitable. This discussion addresses the controlled process whereby projects incorporate formal changes, conduct internal replanning, and adjust past, present and future information to accommodate changes. The keys are timeliness and control.

3-7.a Customer-Directed Changes. Customer-directed changes to the project can impact virtually all aspects of the internal planning and control system, such as organization structures, work authorizations, budgets, schedules, and EACs. The incorporation of authorized changes should be made in a timely manner and strictly controlled. This will ensure the PMB can be accurately maintained.

3-7.b Provide Traceability to Previous Budgets. The original budget established for the project should constitute a traceable basis against which project growth can be measured. The starting point or base on which these original budgets are built is the project target cost. This value increases or decreases only as a result of authorized changes. For definitized changes, the project target cost changes by the negotiated amount. For authorized work which has not been negotiated, the project target cost increases by the amount of cost estimated for that effort. Where a specified Not-to-Exceed (NTE) amount has been established, the project target cost will only increase by this amount unless both parties mutually agree to a different amount for performance measurement purposes. After negotiations, the project target cost is adjusted to reflect the negotiation results. Adequate records of all changes should be maintained to provide the basis for reconciliation back to the original budgets assigned during the baselining process.

3-7.c Control Internal Changes to the PMB. Future plans may significantly vary from the original baseline, and the project may choose to realign scope, schedule, or budget. Some examples of when it may be appropriate to do internal replanning (i.e., within the project target cost or approved TAB) include:

- (1) Changes resulting from a Preliminary Design Review (PDR) or a Critical Design Review (CDR) that modify future requirements;
- (2) A major shift in the resource profile to accomplish the remaining effort;
- (3) Funding restrictions or modifications that affect future resource availability;
- (4) Rate changes that are significant enough to warrant replanning.

Internal replanning is intended for in-scope changes to future budgets. The objective of internal replanning is to reflect a revised project plan. Changes to near term effort (scheduled to start in the next accounting period) must be minimized.

3-7.d Control Account Replanning. Replanning of work packages within control accounts is sometimes necessary to compensate for internal conditions which affect the planning and scheduling of remaining work. Such replanning should be accomplished within the constraints of the previously established control account schedule and budget. When more extensive replanning of future work is necessary and the total control account budget must be changed, management reserve may be used to increase or decrease the control account budgets. If replanning requires that work and associated budget be transferred between control accounts, this transfer must also be controlled.

Replanning actions designed to reduce costs, improve or reflect improved efficiency of operations, or otherwise enhance the completion of the project, are encouraged. Internal replanning may involve changes to work-in-process. The replanning of open work packages or LOE should be accomplished in such a way to maintain valid performance measurement information while minimizing the administrative burden. Except for correction of errors and accounting adjustments, no retroactive changes will be made to budgets for completed work.

3-7.e Manufacturing Work Package Changes. A certain amount of rescheduling of open manufacturing work packages is appropriate and acceptable providing procedures exist which prevent the inadvertent invalidation of baseline schedules and budgets. The substance of such procedures should be to limit the range of rescheduling so as to maintain consistency with key production schedule dates. Key production schedule dates define the required completion dates for key elements of the manufacturing plan and are normally found on internal production schedules.

3-7.f Correlate Internal Project Cost with the Contract Budget Base (CBB). The CBB, established based on the agreed-to value of authorized work, must be strictly controlled in order to maintain a valid basis for project performance. Changes to the CBB may only be made as a result of contractual changes. Procedures should ensure controls are in place to prevent inadvertent implementation of a baseline in excess of contract value.

3-7.g Maintain Change Traceability. To maintain the validity of the PMB, discipline is mandatory throughout the organization, particularly in regard to budgetary control. Internal procedures should clearly delineate acceptable and unacceptable budget practices. These should include:

- (1) Budgets are assigned to specific segments of work.
- (2) Work responsibility should not be transferred without transferring the associated budget.
- (3) A budget assigned to a future specific task should not be used to perform another task.
- (4) When management reserve is used, records should clearly indicate when and where it is applied.
- (5) When undistributed budgets exist, records should clearly identify their amount, purpose, and to which efforts budgets are issued.
- (6) Budgets which are assigned to work packages should not be changed once effort is started unless the scope of work is affected by contractual change or project internal adjustments that enhance management of the effort.
- (7) Retroactive changes to budgets or costs for completed work or to schedules are not made except for correction of errors, normal accounting adjustments, revisions to budgets to reflect the formal negotiated value of completed tasks, or to improve the integrity and accuracy of the baseline.

3-8 Material Management. This discussion expands on the application of performance measurement to both development and production material.

3-8.a Establish Budgets for Material Items. The control account budget should include all direct costs for the authorized work with separate identification of cost elements (labor, material, other direct costs). Budgets should be based on defined/expected quantities of material items necessary to meet the requirements of the project. The bill of material (BOM) for a project is normally the basis for establishing material budgets.

3-8.b Establish Work Packages For Budgeted Material Items. The establishment of material work packages for developmental material and production material can differ significantly. In a developmental effort, most material is consumed by the engineering organizations in the design and testing of potential hardware items. These work packages may be established within the same control account as the labor that will consume the material. Planning packages should be established for developmental type material items when design work has not progressed sufficiently to permit adequate definition of parts required. The budgets for these planning packages should be substantiated and segregated in some manner in order to ensure that budget designated for material procurement is not inadvertently used for other requirements.

In a production environment, material work packages may be established in material-only control accounts. These accounts are summarized into the appropriate WBS and/or organizational elements related to the hardware items being produced. Flexibility should be allowed in the planning of production material work packages as long as the budgets accurately represent the manner in which material is planned to be received, accepted, issued to work-in-process, or consumed.

Planning of material budgets for both development and production should coincide with the occurrence of events that show physical progress.

3-8.c Account for Material Purchased for the Project. Acceptable costing techniques should be used to fully account for all material purchased for the project. To ensure effective performance measurement of material takes place, the contractor's accounting system should have the following characteristics:

- (1) An accurate cost accumulation system which assigns material cost to appropriate control accounts in a manner consistent with the budget. Actual costs for material items should be reported in the same accounting period that earned value is taken for the material to facilitate management analysis.
- (2) Where actual costs are not available in a timely manner, assign estimated costs to the material item and make adjustments when actuals are recorded in the accounting system. This may be done outside of the accounting system as long as the project is able to reconcile this value to the accounting system actuals.
- (3) Account for all material and purchased parts in a manner appropriate to their value and significance.

3-8.d Analyze Material Variances at the Appropriate Management Level. Budgets should be scheduled in accordance with a project event and earned when the event occurs. To avoid distortion, actuals should be recorded when the budget is earned. Analysis of variances for material accounts should focus on significant concerns. This may include usage incurred above or below the normal or exact quantities plus normal attrition amounts, as well as variances in the expected price of the material.

(1) Material usage variance is an important cost factor on repetitive large volume, production-type jobs. Acceptable techniques for analyzing and determining current and projected usage variances provide continuing internal measurement when the value and nature of the material warrant. Material systems plan and track material usage. For most projects, purchasing of material in excess of bill of material requirements is standard practice. Planning for material usage allowance to cover scrap, test rejections, unanticipated test quantities, and the like, is a practical necessity, and the project should have records of such provisions. The more uncertain the expected usage, the more important it is to have a good plan and to keep track of performance against it, particularly for project peculiar materials or materials which require long procurement lead-times. The identification of excess usage that is expected to continue for future units is key in validating project material quantities and requirements. Based on this analysis,

appropriate action should be taken to ensure sufficient material is on hand/on order to complete contractual requirements.

(2) Material price variance is an essential element of material cost control. This can be determined early in the cycle of ordering materials, at which point the purchase order value of the materials can be compared with the amount budgeted for that material. Accumulation of these differences represent the total material price variance. When material prices vary from the amounts planned, the contractor should update the EAC as appropriate to show expected cost adjustments.

3-8.e Provide Valid Estimates Of Future Material Requirements. The EAC process focuses on the control account manager. Information relative to price and usage variances should be used to support an update to the EAC. This provides timely notification to management of expected/incurred price changes which may affect future costs on the current project as well as future procurements. On production contracts, the evaluation of excess usage can lead to identification of increased material requirements necessary to maintain the production line at optimum capacity and to meet the contractual requirements.

3-9 Subcontract Management. This discussion expands on the application of performance measurement to subcontracted efforts. Only those aspects unique to managing subcontracts will be covered.

3-9.a Establish Subcontract Management Organizations. When designating the internal organization responsible for managing subcontracted efforts, the prime contractor must assign a manager with sufficient authority and responsibility to be able to ensure the subcontractor will perform to the terms and conditions of the project. Whatever arrangement the prime contractor makes, the person(s) assigned should have all of the same responsibilities as other control account managers within the program organization.

3-9.b Schedules for the Authorized Subcontracted Effort. One aspect of schedule integration that provides unique problems is the integration of subcontractor schedule information into the prime contract schedule. This integration should be accomplished in a manner that provides an accurate depiction of the impact of subcontractor performance on the project schedules.

3-9.c Budget for the Authorized Subcontracted Effort. The identification of budgets for subcontracted items is a result of establishing the requirement for the item to be procured as a subcontract rather than purchased as a material item. This involves identification of the subcontractor, the establishment of an estimated value for the subcontract, and ultimately, negotiating the subcontract scope, schedule and budget. During this process, the prime contractor establishes a baseline for the effort at the control account level. During negotiations, the baseline values will normally be based on the prime contractor's estimate for the work as opposed to the subcontractor's proposal values. Once negotiations are complete, budgets are normally adjusted to reflect the negotiated value of the subcontract. Any other value used must be supportable.

When a subcontractor is required to provide an external performance measurement report, subcontractor data will be provided to the prime contractor for performance measurement purposes. If a subcontractor is not required to provide earned value information to the prime, the prime contractor should establish procedures which provide schedule and technical plans and progress reports as needed for overall project management.

3-9.d Work Packages for Subcontracted Effort. Work packages may be established within subcontract cost accounts to provide for separation of subcontract activities for performance measurement purposes. The prime contractor must be able to support the values established within each work package using either subcontractor supplied information or internal documentation. These work packages must be related to the plan established by the subcontractor to complete efforts on the subcontracted items.

3-9.e Collect and Report Actuals for Subcontracted Efforts. The prime contractor's accounting systems should provide:

(1) accurate cost accumulation which assigns subcontract costs to appropriate control accounts in a manner consistent with the budget. Actual costs for subcontract items should be reported in the same accounting period that earned value is taken.

(2) where actual costs are not available in a timely manner, assign estimated subcontract costs, which will be adjusted when actuals are recorded.

(3) the ability to account for all subcontracted items.

3-9.f Provide Effective Analysis of Subcontractor Performance. Procedures established by the prime contractor for measuring the performance of the subcontractor must consider:

(1) the establishment of a process whereby the prime contractor evaluates the management processes established by the subcontractor to perform the cost, schedule and technical requirements of the subcontract when earned value reporting is required.

(2) the requirement to review the subcontractor's performance report for accuracy and adequacy. This includes an independent analysis of the performance measurement information contained in the data formats of the report, an evaluation of the variance analysis information contained in the report, and an evaluation of management reserve usage, baseline changes and manpower changes.

(3) the capability to incorporate the subcontractor's management information, including analysis of significant variances, into the information submitted to the customer.

During the time period between subcontract ATP and definitization, the prime contractor must make provisions to perform the above actions based on best available information.

3-9.g Generate EACs for Subcontracted Efforts. The procedures relative to subcontract EACs should focus on two aspects:

(1) the requirement that the subcontractor will generate an EAC as necessary to support program requirements and reporting to the customer; and,

(2) the responsibility of the prime contractor to evaluate the subcontractor's EAC for adequacy and accuracy.

PART II - PROCEDURES FOR GOVERNMENT USE OF EARNED VALUE

Section 1

Applying Earned Value Management

1-0. PART II provides procedures for government personnel applying earned value management to government contracts. It may also be useful to contractor personnel conducting self-evaluation of EVMS processes. This section provides an Overview and describes Component relationships.

1-1. Overview. Earned value based performance management has been in use in government contracting since the 1960s, based on DoD Cost/Schedule Control Systems Criteria. Independent studies in recent years have confirmed the validity of earned value as a project management tool, but indicated a need for re-engineering of implementation practices.

A vision for this re-engineering was briefed by the Office of the Under Secretary of Defense, Acquisition & Technology in October 1993, stating "If we can focus attention on the output product, earned value status, and get contractor and government program managers to actually use earned value as a tool for communicating the cost implications of technical and schedule problems - actually integrating technical, schedule and cost - the management systems will become self regulating and self correcting. The quality of a management system is determined not by absence of system defects, but by the presence of management value."

DoD has encouraged industry to develop an industry standard (EVMS Guidelines) for integrated cost, schedule and technical performance management. This standard's 32 criteria, have been determined to be equivalent to the previous 35 DoD cost/schedule control systems criteria, and Appendix VI of DoD 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs, is being amended accordingly.

The industry standard provides for self-evaluation and/or customer evaluation of EVMS compliance. DoD has accepted this approach, and reserves the right to conduct government reviews of contract management systems. Defense continues to encourage industry to take ownership in its earned value management processes. The procedures contained in this document provide for a range of compliance determinations, maximizing industry ownership and involvement.

An Integrated Baseline Review (IBR) will be conducted to seek mutual understanding of and agreement to contractor planning for contract execution. Where the contractor has a previously accepted earned value management system, additional reviews shall only be conducted for cause. Where the contractor does not have a previously accepted system, the compliance evaluation will maximize contractor involvement through a suitable self-evaluation process.

1-2. Component Relationships. A Component is defined as a service or agency with acquisition authority and also includes the Defense Contract Audit Agency (DCAA) and the Defense Contract Management Command (DCMC). There are many organizations which depend on earned value information, and it is important that the needs of each organization are acknowledged and recognized. These needs must be balanced to ensure that the wants of one do not encroach on the basic needs of another. The Performance Management Advisory Council is responsible for achieving this balance.

1-3. Roles and Responsibilities.

1-3a. DoD Executive Agent. DCMC, as the assigned DoD Executive Agent, is responsible for ensuring the effective implementation and coordination of earned value management within DoD. The Executive Agent is responsible for ensuring the integrity and effectiveness in application of processes related to earned value management. The Executive Agent maintains information related to contractor system acceptance and review schedules (including IBRs) and provides for the conduct of EVMS review activities with components. The Executive Agent maintains liaison functions with Industry, as a DoD representative for issues related to earned value management. The Executive Agent retains formal cognizance for the maintenance of this guide and provisions included herein.

1-3b. Performance Management Advisory Council (PMAC). The PMAC is an IPT which assists DCMC, OSD, the Services and other participating Federal Agencies to promote and improve the utility and practice of earned value management. The PMAC is responsive to directions from the Integrated Program Management Executive Steering Group in establishing its mission and objectives. The PMAC consists of representatives experienced in program management and/or earned value management from DoD components, and other participating Federal Agencies active in program management.

1-3c. Focal Points. Each component establishes a focal point to serve as a point of contact for coordination and exchange of information on earned value management. The focal point is responsible for effective policy implementation within their respective component; including ensuring consistency with DoD policy and the provisions of this guide. Components generally have earned value management support offices (EVMSO) at the procuring command level, responsible for ensuring effective earned value management implementation regarding the establishment of contract provisions, and supporting review activities. Lists of appropriate contacts for component and other Agency focal points are available at the OSD Earned Value Web site (<http://www.acq.osd.mil/pm/keypers/keypers.htm>).

1-3d. Procuring Activity. The responsibility for implementation of earned value management on a contract is assigned to the organization tasked with executing the procurement. This organization is normally referred to as the Procuring Activity. For purposes of this guide, the procuring activity is composed of the Program Management Office (PMO), the contracting organization, and the integrated component activities that support the PMO. The DoD Executive Agent will organize a team of qualified individuals, in coordination with the procuring activity, to conduct, when necessary, in-plant reviews of the contractor's management control systems. Part II, Sections 2 and 3 discuss the specific pre-contract award and post-award responsibilities.

1-3fe Contract Administration Office (CAO). The CAO is the cognizant office which is assigned to administer contractual activities at a specific facility in support of the Program Management Office. The cognizant CAO will normally be part of the Defense Contract Management Command (DCMC). Where contract administration responsibilities are retained by the procuring activity, that organization will function as the CAO. Additional guidance regarding CAO functions is provided in Part II, Section 3, FAR Part 42, and DLAM 8000.5.

1-3f. Contract Auditor. The Defense Contract Audit Agency (DCAA) is responsible for conducting audit reviews of the contractor's accounting system policies, procedures and activities. The contract auditor assigned by DCAA participates in surveillance and earned value management system reviews.

1-4. Review Coordination: Concurrent with establishing the requirement for an EVMS review (excluding IBRs), the Executive Agent shall designate a Review Director who will document the following information:

- (a) Review Director's name, organization, and phone number
- (b) Contractor name, division, location, and point of contact
- (c) Contract Number
- (d) Basis/Cause/Purpose/Scope of the Review
- (e) Estimated starting date and duration of the review.

This information will be compiled and distributed in a formal review schedule. Component focal points will advise on their desire to provide participation in a review and contact the designated Review Director to coordinate this requirement.

1-5. Appeal Process. Differences in interpretation of earned value implementation between interested parties within the government and the contractor may sometimes arise. These differences may include issues on criteria applications and system review requirements. Attempts should be made to resolve these issues at the lowest levels, seeking consensus from the government Program Manager, the EVM Support Office, the field level Contract Administration Office, and the contractor. Those differences which cannot be resolved at the lowest level may be appealed to the DoD Executive Agent for resolution. Either a government or a contractor representative may initiate an appeal. Participants in the appeal have the opportunity to provide

appropriate rationale, exhibits, discussion, etc., as required to support the positions. Pending resolution, the involved parties should continue to operate in accordance with the contractor procedures as implemented.

1-6. Withdrawal of Acceptance. When a contractor fails to maintain a previously accepted system and will not take actions to restore it to compliance with the criteria, the CAO may recommend withdrawing or suspending approval of the contractor's earned value management system.

Prior to initiation of any withdrawal action, the DoD Executive Agent will first seek advice from the components. The CAO will advise the contractor that (a) the acceptance is in jeopardy and (b) the contractor must show cause within a reasonable period of time, as determined by the contracting officer, why the acceptance of the earned value management system should not be withdrawn and contractual remedies should not be invoked.

If the contractor does not respond satisfactorily, the Executive Agent may withdraw or suspend the system acceptance. Advance Agreements signed between the contractor and the government are also invalidated by this action. Finally, when an acceptance has been withdrawn or suspended, the contractor may not claim to have an approved system until a new DoD Letter of Acceptance or Advance Agreement has been issued.

Section 2

Pre-contract Activities

2-1. General Information. This section provides the policy and general guidance for pre-contract activities associated with earned value management in preparing a solicitation, in conducting source selection activities, and preparing a contract. The PM must be involved in evaluating the management system and reporting requirements placed on the contract and be an active user of the information contained in the resulting reports. The PM tailors reporting requirements based on a realistic assessment of the management information needs for effective program control. The Earned Value Management Support Office (EVMSO) can provide assistance in tailoring. The information provided in this section correlates to guidance provided in DOD 5000.2-R and the DOD Deskbook.

2-2. Policy. The PM, in structuring contract requirements, ensures only the minimum information required for effective program management is requested. Management system requirements are defined in the contract statement of work (SOW) and in the applicable solicitation/contract clauses. Government reporting requirements are specified separately in the contract through the use of a Contract Data Requirements List (CDRL) (DD Form 1423, or equivalent). These requirements should be contained in both the solicitation document and in the contract.

2-2.a. Government Requirements. Unless waived by the Milestone Decision Authority (MDA) or a designated representative, compliance with the criteria (Part I Section 2) is required on significant contracts and subcontracts within all acquisition programs. These include highly sensitive classified programs and major construction programs, significant contracts executed for foreign governments and specialized organizations such as Advanced Research Projects Agency, and significant acquisition efforts performed by government agencies.

2-2.b. Government Component Thresholds. Significant contracts are defined as DoD development contracts and subcontracts with a value of \$70 million or more and production contracts and subcontracts with a value of \$300 million or more (in FY 1996 constant dollars). Other government agencies have similar policies but have established different thresholds for the application of the criteria. Application of the criteria to contracts and subcontracts below the mandatory levels is optional, subject to the policies of the cognizant government component and the criticality of the effort to the program.

2-2.c. Exceptions.

(1) Compliance with the criteria is not required on contracts or subcontracts that are firm-fixed-price (including firm-fixed-price with economic price adjustment provisions), time and materials contracts, and contracts consisting mostly of level-of-effort work. Exceptions may be made by the MDA for individual contracts.

(2) If there are situations involving significant contracts where the application of the criteria is not believed to be necessary, the procuring activity will forward a request for waiver, prior to releasing the solicitation, to the MDA (or designated representative) for approval. Examples of situations where waivers of the criteria requirements will be considered are:

(a) Follow-on contracts within mature production programs which are not experiencing significant cost or schedule problems and where no significant changes to the product are anticipated.

(b) Contracts to acquire items directly from production lines which currently manufacture predominantly commercial products.

2-2.d. EVM Support. In structuring a procurement to include earned value management requirements, each activity and component has an office with responsibility for ensuring the appropriate and proper application of these requirements. The advice and guidance of these individuals should be sought by those preparing the solicitation package.

2-3. Acquisition Plan. A key document in the pre-contract phase is the Acquisition Plan. The Acquisition Plan details the process whereby the required hardware, software and/or services will be procured. The

procuring activity should explain in the management section of this document the requirements for cost, schedule and technical performance management. Refer to the FAR, subpart 7.1.

2-4. Preparation of the Solicitation.

2-4.a. Basic Requirements. When it is determined a contractor will be required to use an EVMS meeting the criteria, include the appropriate provision in the solicitation (Appendix A). In addition to this provision, the contract statement of work (SOW)/statement of objectives (SOO) should include the requirement for the contractor to use earned value management. The SOW/SOO should also reflect the requirement for the periodic (usually monthly) contractor/PMO reviews to include discussion of technical, cost and schedule problems in their earned value context. The preliminary or sample Work Breakdown Structure (WBS) must be established and included, and the contract data requirements for performance reporting must be generated and placed in the Solicitation.

2-4.b Statement of Work (SOW) Task Descriptions. The statement of work should contain a requirements for the contractor to perform the contract technical effort using a criteria-compliant EVMS that correlates cost and schedule performance with technical progress. Progress and problems would be presented and discussed in periodic program management reviews. Technical issues should be covered in terms of performance goals, exit criteria, schedule progress and/or cost impact.

2-4.c Work Breakdown Structure (WBS). The development of the contract work breakdown structure (CWBS) is very important to the effectiveness of an earned value management system. A too-detailed or poorly-structured CWBS can increase the cost of implementing and maintaining an IMS on a project. The PM should exercise considerable care in its development. A preliminary WBS is made part of the solicitation. This preliminary WBS should be structured in accordance with the guidelines established by the acquiring government agency. Guidance for DoD procurements, for example, is provided in DOD 5000.2-R, Part 4, paragraph 4.4.2 and MIL-HDBK 881 (latest version). This preliminary WBS is expanded by the contractor (a) to reflect the manner in which the work will be accomplished on the contract and, (b) to facilitate management, data collection, and reporting.

2-4.d. Cost and Schedule Reporting. Excessive cost and schedule reporting requirements can be a source of increased contract costs. Careful consideration must be given when preparing the contract data requirements list (CDRL) to ensure that it identifies the minimum data needs of the program and the appropriate data item descriptions (DID). The CDRL provides contractor guidance for preparation and submitting of reports, including reporting frequency, distribution, and tailoring instructions.

2-4.d(1) The use of electronic data interchange is mandatory and the American National Standards Institute (ANSI) Accredited Standards Committee (ASC) X.12 standard applies. This requires data transmissions to be made in a specified format in order to standardize software interfaces throughout the industry. Requirements to submit a report by electronic means will be included in the contract.

2-4.d(2) In establishing the cost and schedule reporting requirements, the PM should limit the reporting to what can and will be effectively used. How the PMO is or will be organized to manage the effort should be considered and the reporting should be tailored to those needs.

2-4.d(3) The PMO should consider requiring early submission of Cost Performance Report (CPR) Formats 1-4 so that the data will not be delayed waiting for the narrative analysis (Format 5) to be prepared. When the contractor is required to provide narrative analysis as part of the monthly contractor/PMO reviews, the PM should consider requesting only minimal written or no narrative analysis to be reported with the CPR.

2-4.e Tailoring the CPR. Suggested areas for report tailoring include:

2-4.e(1). CPR CWBS Reporting levels (Format 1). The PM should carefully evaluate the CWBS reporting levels selected for routine reporting to ensure only the minimum necessary for effective

management control is obtained. The reporting level specified in the CDRL is normally CWBS level 3, except for high cost or high risk items. WBS elements being reported should be evaluated periodically and changed, as necessary, to ensure the CPR continues to satisfy the PM's needs. It is not necessary for reporting levels in different legs of the WBS to be the same. For example, reporting in the Prime Mission Equipment leg of the WBS may be level four while reporting in the Training leg may be at level three. Management needs will determine the appropriate level.

2-4.e(2). CPR Organizational Reporting (Format 2). If the contractor's organization is structured around the same products as the CWBS, eliminate Format 2 as this will provide the same information as Format 1. Otherwise, Format 2 of the CPR should reflect the contractor's choice relative to the internal structure (including IPTs) established to manage the contract.

2-4.e(3). CPR Format 3 & 4 Report Periods. The DID requires the contractor to complete CPR Formats 3 & 4, columns 10 through 14, by specified periods or periodic increments, as negotiated with the procuring activity. The following paragraph provides an example of how the report periods should be included in the CDRL.

Formats 3 and 4 should contain baseline and manpower forecasts for three-month periods for two periods (cols 10 and 11), 12 month periods for the next two subsequent periods (cols 12 and 13), and the remainder of the contract for the last period (col 14).

2-4.e(4). CPR Format 5 requirements. CPR Format 5 contains the contractors analysis of significant contract variances. There are several, proven techniques for focusing this analysis on critical issues/areas. The following table contains several approaches a PM may choose. The CDRL item should provide that the variance approach will be mutually reassessed at least every six months and adjusted as necessary to ensure useful analysis information will be provided.

A	The contractor will provide analysis of a specified number of the most significant variances, current or potential, regardless of dollar value in a given period. The identification of the items to be analyzed and explained should be mutually agreed-upon and periodically modified, or, based upon the contractor's assessment of major risk areas as identified through the government/contractor management review process.
B	The government and contractor will jointly determine CWBS and organizational elements that constitute cost, schedule or technical risk on the contract. The contractor will provide explanations of variances in these elements if they exceed pre-established thresholds. The identification of these areas should be periodically reviewed and modified through mutual agreement.
C	Explanations of variances are provided by the contractor after formats 1-4 of the CPR have been provided to the government and those elements requiring analysis reporting are identified by the government.

2-4.e(5). Schedule Reporting. The CDRL for the program schedule submission should focus on the minimum requirements needed for schedule management. These schedules may contain an integrated network developed in conjunction with the CWBS. Either a manually or software generated integrated schedule network can be acceptable depending on the individual contractor's internal practices.

2-4.f. Data Item Descriptions (DIDs). Copies of DIDs may be obtained from the Naval Publication and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120. Current, valid DIDs are listed in the Authorized Management Systems and Data Requirements Control List (AMS DL), DoD 5000.19L, Volume II.

2-5. Source Selection Evaluation Activities.

2-5.a. Proposal Submissions. A flowchart for the solicitation phase process is shown at Figure 2-1. When required by the Solicitation, each offeror's proposal shall include a description of the EVMS to be used. Normally, the offeror would be expected to propose use of an existing system provided that it meets the criteria. An offeror proposing to use an EVMS previously accepted by the government may satisfy the system description requirement by citing the Advance Agreement, Letter of Acceptance, or Certificate of Validation. Each offeror's proposal should include a listing of procuring activity points of contact for contracts where the proposed EVMS has been previously used. An offeror not having a previously accepted system submits a plan to obtain system acceptance. This may involve self-evaluation with appropriate government involvement, third party certification or government review.

2-5.b. System Descriptions. If the offeror proposes a system that has not previously been accepted by the government, the description of the offeror's EVMS must be in sufficient detail to show how it complies with the criteria. The offeror's system description may be in their own format but must address applicable areas of Appendix B (Earned Value Management System Evaluation Guide).

Specifically, it should describe the EVMS and its application with respect to organization of the work, planning, budgeting, scheduling, work authorization, cost accumulation, measurement and reporting of cost and schedule performance, variance analysis and baseline control. Aspects such as manufacturing, material, and subcontract management should be included.

Although it is not required as part of the system description, the offeror may correlate evaluation guide items (Appendix B) with applicable portions of the system description.

An offeror may elect to keep the system description general and rely on cross-referencing to internal procedures or policy manuals for a discussion of the details. In this case, the procedures and policy documents are to be referenced in, and considered a part of, the system description.

2-5.c. Evaluation. Evaluation of the proposed EVMS is normally undertaken as part of the proposal evaluation process. This evaluation is basically an assessment to determine the probability of the system meeting the criteria. If an offeror has proposed using a previously accepted system, the evaluation may consist of a confirmation that:

- (1) the previous acceptance was of an appropriate type (Development/Production); and,
- (2) the system is currently in use and surveillance has not identified significant, uncorrected problems.

The DCMC representative should be requested to provide insight regarding each offeror's EVMS capability, quality, and past performance.

2-5.d. Clarification. An on-site examination of an offeror's proposed system is normally not required during proposal evaluation. When any aspect of the system is not clearly understood, however, clarification may be requested to be provided by the offeror. This may take the form of written communications or an on-site visit. Any such action shall be coordinated with other relevant component authorities including the Source Selection Board and Procuring Activity. Care shall be exercised during the entire review process to ensure that the offeror and the government have the same understanding of the system described in the proposal. If it is necessary to review plans and reports of other contracts, concurrence of that procuring activity must be obtained.

2-5.f. Proprietary Information. Care must be exercised to avoid improper disclosure of information obtained from offerors, especially in competitive situations, in which the degree of compliance with the criteria is a factor in contract award.

2-6. Preparation of the Contract. The contract provisions shall require that the contractor's system comply with the criteria throughout performance of the contract. Applicable government clauses are in Appendix A. The SOW tasks and the CDRL items from the solicitation also become part of the contract. The clauses cover the requirements of the criteria and other conditions as follows:

- a. the contractor shall use and demonstrate the EVMS which meets the criteria;

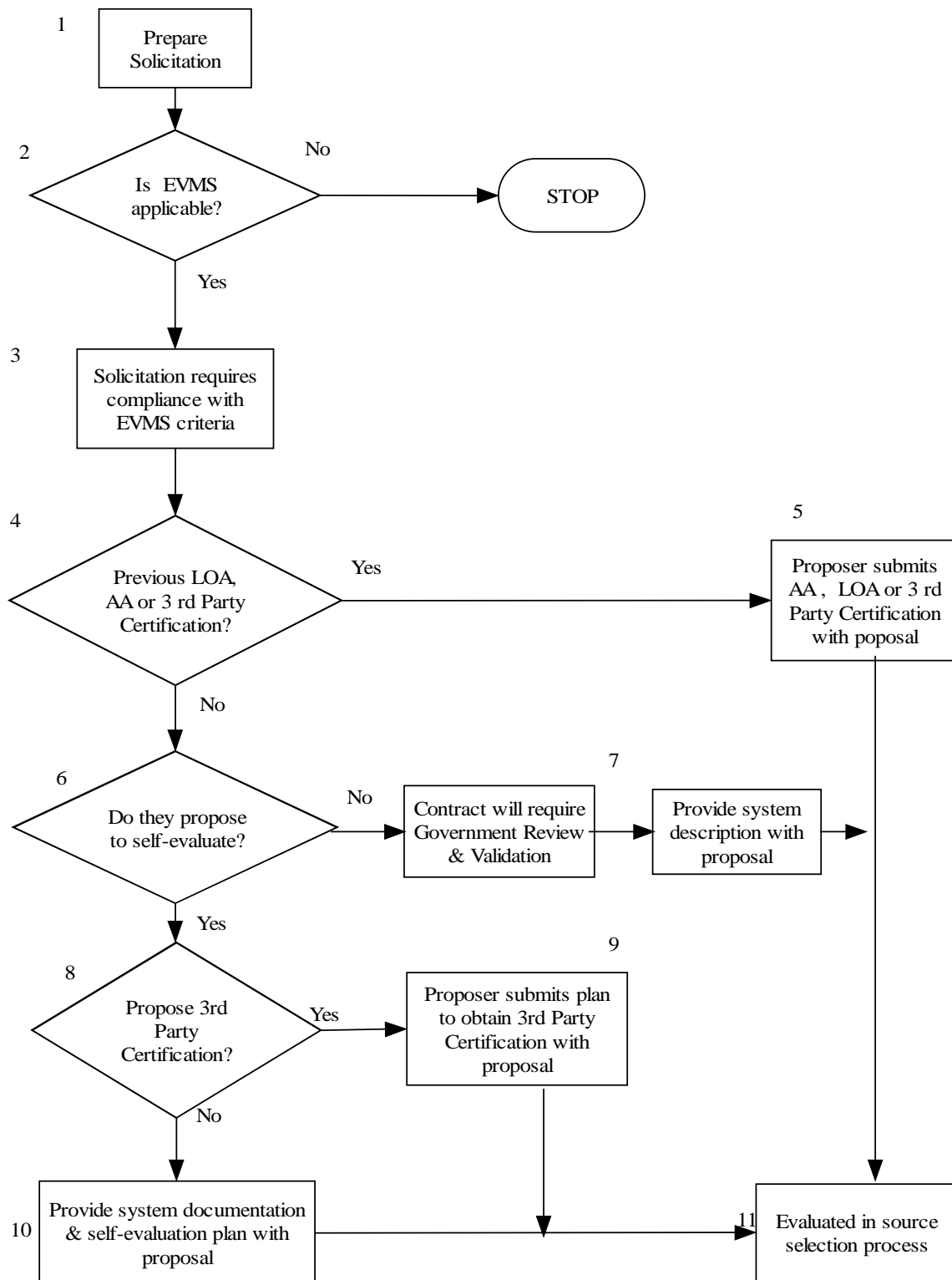


FIGURE 2-1 EVMS SOLICITATION PROCESS

- b. the contractor shall notify the government of changes affecting the accepted earned value management system description;
- c. the government shall have access to pertinent records and data associated with the EVMS; and,
- d. the criteria shall be applied to selected subcontractors as required by the contract.

Section 3 Post-award Activities

3-1. General Information. This section describes earned value implementation actions following contract award. It includes EVMS surveillance, processing of contractor generated changes to approved systems, training of government personnel in the use of earned value, and conduct of post-award reviews of contractor data and systems.

3-2. The Surveillance Process. The CAO has the primary responsibility for surveillance of the contractor's EVMS. A number of organizations are involved in the surveillance of contractor's earned value management systems. These include the Contract Administration Office (CAO), the DCAA Field Audit Activity (DCAA FAO), the PMO, and the integrated component activities including the EVMSO. The contractor may choose to participate in this surveillance process and is strongly encouraged to do so. This grouping of organizations is referred to as the Integrated Surveillance Team (IST). Close coordination among the members of the IST is required to ensure surveillance is performed in an effective manner which avoids duplication.

EVMS surveillance begins prior to contract award, continues through system compliance evaluation and acceptance (when required), and extends throughout the duration of the contract. Surveillance must ensure that the contractor's EVMS:

- a. Provides timely and reliable cost, schedule, and technical performance measurement information summarized directly from the contractor's internal management system.
- b. Complies with the criteria.
- c. Provides timely indications of actual or potential problems.
- d. Maintains baseline integrity.
- e. Provides information that depicts actual conditions and trends.
- f. Provides comprehensive variance analysis at the appropriate levels including proposed corrective action in regard to cost, schedule, technical, and other problem areas.

For the life of the contract, surveillance should be based on recurring evaluation of internal management control practices and samples of internal and external reported data to ensure the validity of the contractor's performance data provided to the government. The surveillance activity should focus on major system activities and problem identification to ensure the greatest return for resources expended. A flowchart of the surveillance activity is shown in Figure 3-1.

3-2.a. Surveillance Responsibilities. EVMS surveillance requires participation and full cooperation of the IST and the contractor. The following organizations have specific surveillance responsibilities:

(1) **Program Management Office (PMO).** The responsibilities of the PMO include: negotiating and updating of the Memorandum of Agreement (MOA) with the CAO. (See paragraph 3-5 below); keeping the CAO informed of actions and matters which could affect EVMS surveillance; assisting resolution of problems cited in surveillance reports by providing required support to the Contract Performance Management (CPM) monitor; reviewing, evaluating, and analyzing contractor performance reports and bringing issues to the attention of the CAO; apprising the CAO of the adequacy and usefulness of the surveillance reports, and where necessary, stating required changes to reporting practices; and obtaining assistance from the procuring activity's EVMS support organization in resolving EVMS issues.

(2) **Contract Administration Office (CAO).** The CAO is responsible for EVMS surveillance in accordance with DFARS 242.302 (41) and DLAM 8000.5. Individuals within the CAO having C/SCSC surveillance responsibilities are:

- (a) The CPM monitor who is assigned the overall responsibility for surveillance of the contractor's EVMS. This includes evaluation of contractor proposed changes to the system. (See paragraph 3-5 below) The CPM Monitor should also be cognizant of the procuring activity EVMS support organization that can provide assistance in working surveillance issues.
- (b) The Program Support Team (PST) members who are assigned the responsibility for accomplishing surveillance in their respective functional or organizational area.

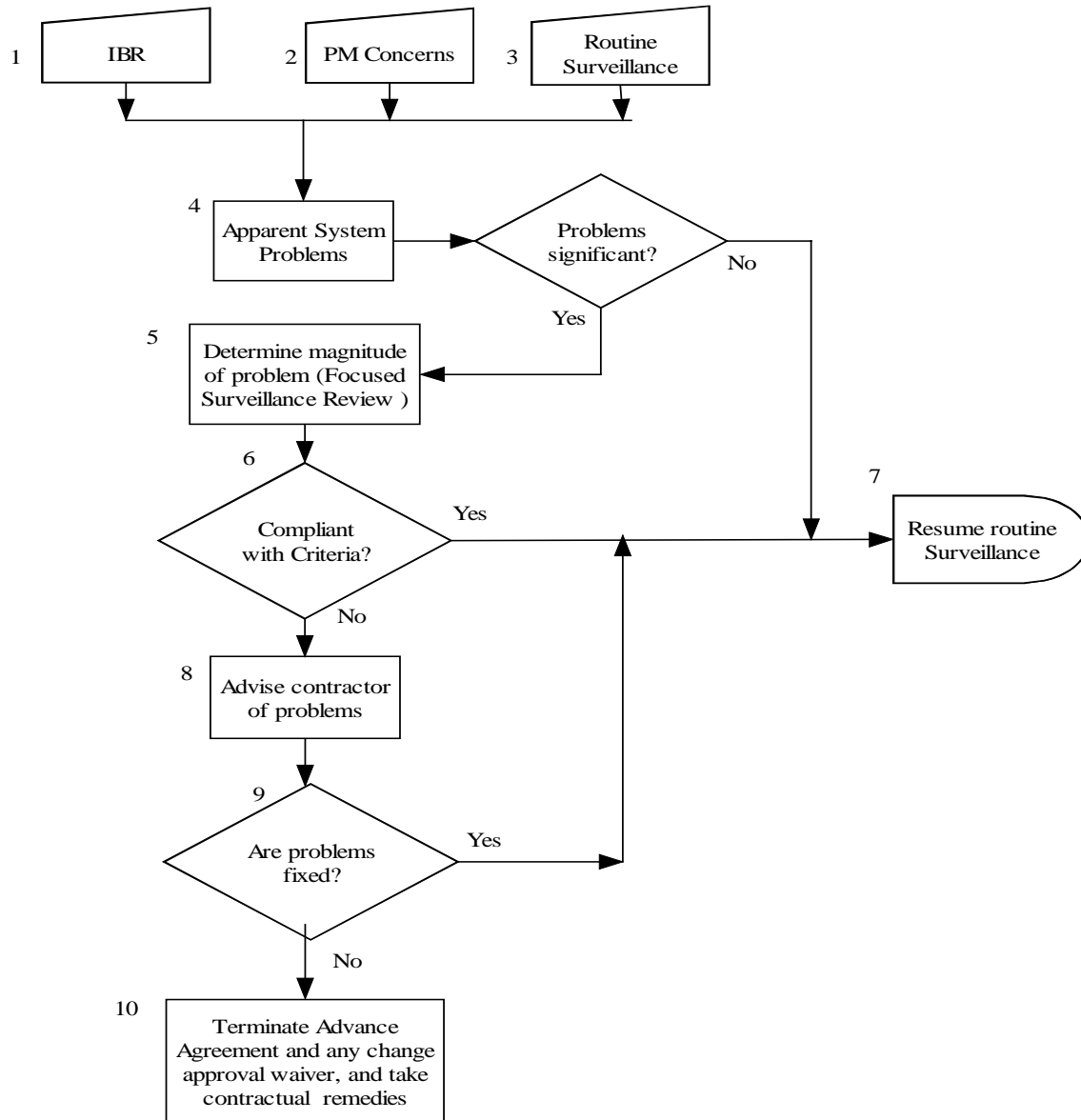


FIGURE 3-1 SURVEILLANCE PROCESS

(c) The Program Integrator (PI)/Subcontract Program Integrator (SPI) who serves as the CAO focal point on major program contracts (or designated major/critical subcontracts).

(d) The Administrative Contracting Officer (ACO) who is designated as the agent of the government responsible for assuring that the contractor complies with the contract. The ACO is a member of the Program Support Team (PST).

(3) **DCAA Field Audit Office (FAO).** DOD Directive 5105.36 assigns the DCAA FAO responsibilities directly related to C/SCSC surveillance. These include providing advice to the CAO and other government levels having authority and responsibility to take action on the acceptability of incurred costs and estimates of costs to be incurred as well as the adequacy of contractors' accounting, financial management, and estimating systems and procedures. DCAA FAO activities are accomplished in coordination with the cognizant CAO through a review of the contractor's total operation. DCAA FAO has the following responsibilities: reviewing the contractor's accounting system for compliance with the C/SCSC and contract provisions including verification that there is consistency with related budgeting and work authorization systems; determining the accuracy and reliability of the financial data contained in the contract cost reports prepared from the contractor's systems; reporting any significant unresolved deficiencies to the CPM monitor; incorporating the appropriate EVMS surveillance requirements into routine audit programs and procedures; and advising the CPM monitor regarding DCAA surveys of contractor systems and other audits which may bear on EVMS acceptability or surveillance.

(4) **The Contractor.** Through an internal surveillance program, or by some other means, the contractor should ensure its EVMS continues to meet the criteria, is implemented, and used correctly on all applicable contracts. The CAO should coordinate surveillance efforts with the contractor. Joint surveillance between the IST and the contractor is encouraged and, if established, should be documented in a Joint Surveillance Plan.

3-2.b. Surveillance of Subcontractors and Other Prime Contractor Locations. Subcontracts and other locations or divisions of the prime contractor selected for application of the criteria may require surveillance to be performed by another CAO. Where appropriate, the request for support administration should be made by the CAO having cognizance of the contract.

When a subcontractor is required to comply with the criteria, the prime contractor will be responsible for surveillance of the subcontractor. The prime CAO function normally is limited to evaluating the effectiveness of the prime contractor's management of the subcontract. However, there may be occasions when the PM or a prime contractor will request, through the ACO, that the government perform limited or complete earned value system surveillance.

Such support administration is not to be construed as a discharge of the prime contractor's contractual obligations and responsibilities in subcontract management. Such assistance should generally be provided only when:

- (1) the prime contractor is unable to accomplish the required surveillance because it would jeopardize the subcontractor's competitive position or proprietary data is involved,
- (2) there is a business relationship between the prime contractor and subcontractor not conducive to independence and objectivity, as in the case of a parent-subsidiary or when prime and subcontracting roles of the companies are frequently reversed; or,
- (3) the subcontractor is sole source and the subcontract costs represent a substantial part of the prime contractor costs.

3-3. Advance Agreements. The Advance Agreement (AA) between the government and a contractor specifies that the contractor will maintain and use the accepted EVMS as an integral management process on the current as well as future contracts. The AA also documents the government's intent to minimize system reviews. Procedures for developing an AA are provided in DLA Manual 8000.5. A template for the AA is provided at Appendix E. The CAO and contractor should also establish a Rules of Engagement (ROE) document to identify how joint surveillance findings will be documented and the process for resolution of disagreements concerning EVMS compliance issues.

The AA is executed following the successful completion of a Compliance Evaluation, or government acceptance of a contractor's self-evaluation process, and remains in effect indefinitely. Once executed, the AA should be referenced and incorporated into each contract requiring the application of the

criteria. The AA is signed by the cognizant Corporate/Division Administrative Contracting Officer (CACO/DACO) and a contractor representative at the commensurate level. For example, if the acceptance is for an EVMS used throughout a corporation's division, the appropriate contractor representative may be the division manager.

Government PMs should be aware of the existence of AAs with their contractors in order to take maximum advantage of the agreements contained therein in establishing MOA requirements.

3-4. Memorandum of Agreement (MOA). The MOA is a negotiated agreement that identifies the key individuals, specific responsibilities, priorities, reporting requirements, and working relationships between the PMO and the CAO, or between CAOs where multiple prime contractors are involved. The MOA describes the activities necessary to achieve and maintain effective program surveillance. Procedures for developing the EVMS portion of the MOA are provided in DLAM 8000.5. An example MOA is contained in Appendix D of this guide.

3-5. Compliance After Acceptance. The contractor is contractually obligated to maintain the EVMS in accordance with the criteria. Continuing innovations and improvement of the contractor's system are encouraged. Such changes require prior government approval unless the ACO has provided a waiver. Waivers to systems change prior approval provision should normally be granted when contractors provide demonstrated commitment to the use of earned value management as an integral part of their business practices. Formal documentation of this commitment may, for example, be found in Advance Agreements, Memorandums of Understanding, Internal Executive Company Directives or other Company Procedures, clearly indicating the contractor's commitment to effective earned value management. When the ACO provides a waiver to the prior approval of system changes provision, contractors will notify the government at least two weeks in advance of implementing changes. Waivers should normally be granted to apply to all contracts at a contractors facility including the Earned Value Management System clause provided in Appendix A of this guide. This waiver should continue to apply, provided the ACO determines the contractor retains its commitment to effective Earned Value Management business practices.

A flowchart of the system change process is provided at Figure 3-2. The CPM Monitor will promptly evaluate changes for continuing compliance with the criteria. This evaluation may be conducted with the support of the procuring activity EVMSO. When a proposed change is obviously non-compliant, the contractor will be promptly notified by the CAO.

The CPM Monitor will provide each affected program manager with an assessment of the effect of the change on their contracts. This will ensure that contractor system changes which result in modifications to reported information will not be made without the involvement of the organizations utilizing the data for program management.

The system description and procedures must adequately describe the elements of control and the techniques (e.g., earned value methods) used in the satisfaction of the criteria. The software used must implement these controls and techniques but may be modified or replaced as long as the processes are supported and not modified. This includes, for example, management subsystems' inputs, outputs, files, control account and work package formats, earned value techniques and interfaces among those subsystems. The name of the software may be mentioned in the system description, when the intent is to clarify and describe the capabilities as mentioned above, and thereby reduce the amount of additional content needed in the systems description.

3-6. Training. In order to effectively utilize the information generated by the contractor's EVMS and reported in the external reports, program office, CAO, DCAA FAO and contractor personnel should receive training in the analysis of earned value data. There are three general sources of training: formal training classes (DAU, DSMC, etc.); contractor sponsored training; and, informal, on-the-job training.

3-6.a. Formal training. Courses on the basics of earned value and the analysis of data should be provided for all personnel associated with the program, and refresher training should be offered. This training is available from the member organizations of the Defense Acquisition University (DAU) as well as other recognized educational institutions.

3-6.b. Contractor Sponsored Training. The majority of contractors with approved EVMSs conduct training classes in the operation of the system. Where the contractor provides training in the EVMS, the program office, the CAO and DCAA may seek to participate in these training opportunities.

3-6.c. In-house training. Each acquisition component with an EVMSO normally provides in-house training. Where this capability exists, all organizations involved in an acquisition should be invited to participate in this training. This training may consist of specialized training, on-request, focused on an individual contract or, it may be generalized training addressing the concepts of earned value and the analysis of earned value information. When in-house training is conducted for an individual program office, every effort should be made to incorporate the specifics of the contractor's EVMS into the course.

3-7. Integrated Baseline Review (IBR). The IBR is a joint assessment by the government and the contractor of the contractor's performance measurement baseline (PMB). It is conducted within six months of the award of a new contract or a major change to an existing contract. The responsibility for conducting the IBR lies with the program manager and the PMO technical staff. Participation by members of the IST in performing this review is encouraged. Specific guidance for conducting the IBR is contained in Section 4.

3-8. EVMS Compliance Reviews. Following award of a contract, there may be occasions where evaluations of the contractor's earned value management system may be necessary to ensure that it is generating proper information for program management use. The focus and conduct of these reviews is described in Section 4. Program Managers, the CAO and the EVM support office should provide sufficient resources in support of these reviews to ensure their effective conclusion.

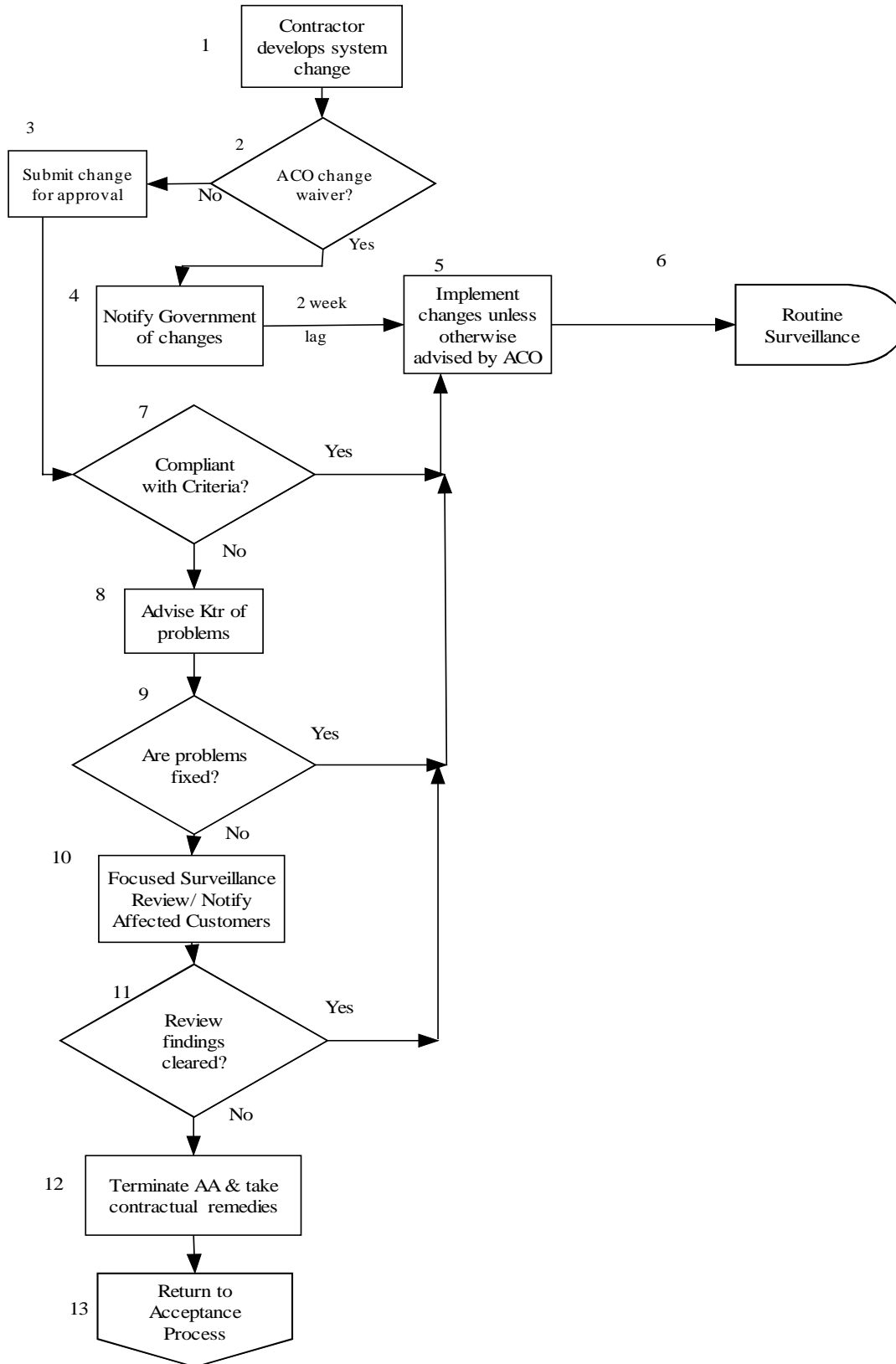


FIGURE 3-2 SYSTEM CHANGE PROCESS

Section 4

EVMS Reviews

4-1. General Information. This section defines the process for performing Integrated Baseline Reviews (IBRs), initial compliance evaluations of proposed earned value management systems, and reviews for cause of subsequent implementations of accepted systems. It provides guidance on the approaches to, preparations for and the performance of these reviews. The preparation of reports resulting from these reviews is covered in Appendix C.

4-2. Integrated Baseline Review (IBR) Process.

4-2.a Policy. For all contracts requiring compliance with the criteria, the validity of the PMB will be substantiated through the conduct of an Integrated Baseline Review (IBR). This review will be conducted within six months of contract award. The intent of the IBR is to institutionalize a process which facilitates the involvement of the program manager and the program technical staff in the management of the program using performance measurement information.

4-2.b. Definition. An IBR is a formal review conducted by the government program manager and technical staff, jointly with their contractor counterparts, following contract award to verify the technical content of the performance measurement baseline and the accuracy of the related resource (budgets) and schedules. An IBR will also be performed when work on a production option of a development contract begins or, at the discretion of the program manager, when a major modification to an existing contract significantly changes the existing PMB. When major events occur within the life of a program, e.g. PDR, CDR, etc., and a significant shift in the content and/or time-phasing of the PMB occurs, the PM may conduct a review of those areas affected by the change with the associated resources and schedules. The intent is for the IBR to be a continuous part of the process of program management by both the government and the contractor.

4-2.c. Objectives. The primary objectives of IBRs are:

- (1) to ensure that the technical content of work packages and /cost accounts is consistent with the contract scope of work, the CWBS, and (if applicable), the CWBS dictionary;
- (2) to ensure that there is a logical sequence of effort planned consistent with the contract schedule;
- (3) to assess the validity of allocated cost account and SLPP budgets, both in terms of total resources and time-phasing;
- (4) to conduct a technical assessment of the earned value methods that will be used to measure progress to assure that objective and meaningful performance data will be provided;
- (5) to establish a forum through which the government program manager and the program technical staff gain a sense of ownership of the cost/schedule management process. By understanding the internal earned value management system, government and contractor technical counterparts can jointly conduct recurring reviews of PMB planning, status, and estimates at completion to ensure that baseline integrity is maintained throughout the life of the contract.

4-2.d. Responsibilities.

4-2.d(1). Program Manager. As the primary beneficiary of the IBR process, the program manager is responsible for the timeliness and successful execution of the review. The PM will participate in a lead role, or designate the deputy program manager or a senior member of the technical staff to lead, along with sufficient program office engineers and other program management team members and CAO personnel to ensure a comprehensive evaluation of the PMB is performed. The process requires the immediate and continuing involvement and support of the program manager and the program technical staff.

4-2.d(2). EVMS Support Organizations. The EVMS support organization should provide assistance in training the program office staff in the conduct of the review as well as all aspects of earned value management and in providing qualified personnel to assist in conducting the review.

4-2.d(3). CAO. The CAO is responsible to inform the government program manager and the component focal point of either EVMS deficiencies or program implementation problems that would preclude the successful conduct of an IBR. Moreover, the CAO will support and participate in the reviews as necessary.

4-2.d(4). The Contractor. The contractor program manager and technical personnel form an integral part of the IBR Team and process and should be invited to be full participants in each stage of the IBR.

4-2.e. Integrated Baseline Review Approach:

4-2.e(1). Review Duration. The review is to be conducted at the prime contractor's facility. The duration is determined by the program manager. The duration, however, should be based on the size of the contract, number of control accounts to be reviewed, number of contractor managers involved, and other factors. These factors will also determine the size and makeup of the review team.

4-2.e(2). Selection and Composition of Team. The IBR team will be composed of engineers and other technical personnel, and, to a lesser degree, other program management personnel, EVMS support personnel, and CAO personnel (both technical and EVM). The team may include other functional specialists and contractor personnel who support the program and could make a contribution to the review process.

4-2.e(3). Training. Adequate training for the technical staff is essential to ensure that performance measurement information is a useful management tool for the program office. Support personnel, including the cognizant CAO representatives and the contractor, may be invited to participate in the training program. The enhanced training program should include, but not be limited to: how to conduct the IBR; a conceptual understanding of the basics of earned value based performance measurement (i.e. how work is assigned, planned, budgeted, scheduled and statused); specifics of the contractor's EVMS; and a basic understanding of the recurring review and analysis of the baseline and performance data.

4-2.e(4) IBR Workshop. Prior to the IBR, the leadership of the IBR Team will conduct a workshop for the review team. Areas such as the purpose, objectives, agenda, expectations of team members, techniques and approach for conducting baseline discussions, and expected outcome must all be clearly understood by the team. An invitation should be extended to the contractor for a representative to attend the government IBR workshop.

4-2.e(5). Preparation for the Review. The program office, in close coordination with the contractor, should determine the contractor managers to be involved and specific control accounts to be reviewed. Consideration in the selection process should include discrete hardware and software areas, subcontract effort, scheduling logic, and high risk areas, which includes both cost and technical issues. The program office technical staff should provide input to the selection process.

4-2.e(6). Conducting the Review.

(a) The IBR process is a streamlined approach to assessing the PMB on new contracts. The assumptions are that the contractor is using an accepted earned value management system internally for program management and that there is a thorough and effective surveillance program ongoing at the facility. This review, therefore, is not as comprehensive as post-acceptance reviews for cause discussed later in this section. The use of the EVMS Evaluation Guide, Appendix B is not appropriate. The review will consist of two basic activities. These are:

(i) Discussions with a selected sample of contractor managers to review the contractor's baseline plan for contract execution. This includes work authorizations; schedules; control account work package and

planning package budgets; and, progress measurement methods. These baseline discussions will be conducted primarily by the program office technical team members with support by the CAO and EVMSO team members.

(ii) An exit briefing by the review team covering the team's findings. During this briefing, any program office action items should be discussed. All open concerns should be identified along with the agreed upon corrective action plans which establish responsibility and a time-frame for corrective action.

(b) Major subcontracts and Intra-company effort. Effort performed by external organizations poses a unique challenge for the review. The process necessitates an assessment of baseline planning at the control account/work package level which is accomplished, in part, by holding discussions with the responsible managers. Where there is a significant amount of subcontract or intra-company effort, separate joint government/prime reviews should be conducted at the subcontractor and intra-company facilities. The review at the prime contractor's facility should therefore focus on an assessment of the responsible (prime) contractor manager's process for management of subcontract cost, schedule, and technical performance.

4-2.e(7). Review Results. At the conclusion of the review, all concerns requiring resolution should be identified, and estimated dates for resolution established. EVMS issues will be referred to the EVMSO and the CAO for resolution.

4-2.e(8). Report. There is no formal report required at the conclusion of the IBR. The program manager may establish a requirement for documentation of the review but the content and format of this report are at the PM's discretion. The Program Manager is responsible for notifying the contractor of the results of the review.

4-3 Initial Compliance Evaluations.

4-3.a. Policy. When the application of the Criteria is required, it is policy to ensure that:

- (1) no changes to contractors' existing EVMSs are required except those necessary to meet the intent of the criteria;
- (2) the contractor has properly implemented the EVMS on the contract under review and is using it as a mainstream program management tool; and,
- (3) the contractor is using the data from its own EVMS in reports to the government.

Options for compliance evaluations are provided in Figure 4-1.

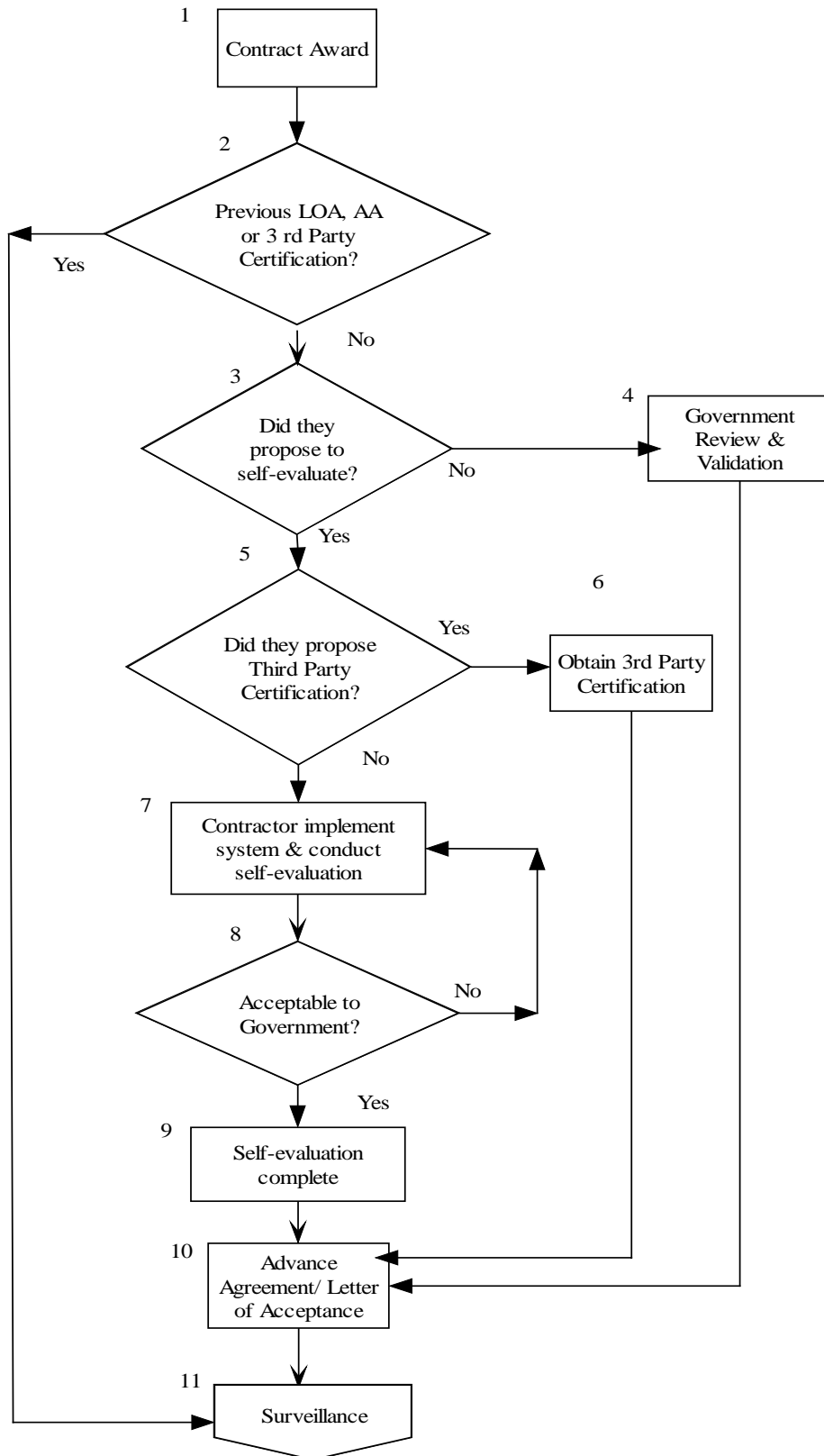
4-3.b. Definition. The compliance evaluation is a formal review conducted to assess the contractor's proposed EVMS relative to compliance with the Criteria. It focuses on those processes defined and used by the contractor to manage major acquisitions in an earned value environment.

4-3.c. Objectives. The primary objectives of the compliance evaluations are:

- (1) to evaluate management system capabilities against the Criteria;
- (2) to assess the description of the management system to determine if it adequately describes the management processes being reviewed; and
- (3) to evaluate the application of the management system on the contract being reviewed.

4-3.d. Review Process Ownership. In the interest of fostering contractor ownership, the government goal is to encourage contractors to responsibly conduct self-evaluation of their EVMSs in partnership with the government. The government reserves the right to supplement contractor self-evaluation where necessary. The factors affecting the degree of government involvement include:

- (1) Contractor Senior Management commitment to establishing and maintaining a compliant EVMS.
- (2) Contractor willingness to lead or participate
- (3) Knowledge and capabilities of the proposed contractor team leaders and members.



(1)

FIGURE 4-1

EVMS POST CONTRACT PROCESS

- (4) Adequacy of the contractor self-evaluation process, including opportunity for government participation.

This process could focus on individual elements of the EVMS or the entire system. When the contractor has established an intent to perform a self-evaluation the DCMC assigned Review Director will be consulted by the contractor concerning the process to be used and the progress being made. The processes and procedures described in the following paragraphs are appropriate for use by both government and contractor teams.

4-3.e. Basis for Application. DFARS Clause 252.234-7001, Earned Value Management Systems, requires that the contractor be prepared to demonstrate that the contractor's EVMS meets the criteria. Both the solicitation and contract clauses are contained in Appendix A of this guide.

4-3.f. Determination of Evaluation Focus. Since a contractor's EVMS used during development may differ significantly from that used during production, separate compliance evaluations may be required. Simultaneous reviews of the systems used for development and production contracts may be performed, or a contractor may implement one system for both types of contracts. This eliminates the necessity for multiple reviews. The production system demonstrated to gain acceptance, however, should be of such an extent that its review will demonstrate its applicability to production contracts that warrant the imposition of the criteria. In determining the category for review (development or production) to be accomplished, the following issues should be considered:

- (1) If the manufacturing effort in the contract is not true repetitive manufacturing (e.g., model shop work), and there is no major difference from the management system used for the engineering effort and in the way the work is planned and controlled and cost data are collected, then the review can be based on the application of a development system.
- (2) If the preponderance of discrete effort in the contract is identified as either engineering or manufacturing, then the identification of the review as development or production should be self evident.
- (3) If there is little or no manufacturing effort (e.g., contracts for long-lead items, engineering services, or production planning), the contractor can apply either an accepted development or an accepted production system regardless of funding.
- (4) The type of funding should be considered, but it should not override other considerations.

4-3.g. Responsibilities. The Executive Agent is responsible for selection of a review director to coordinate review activities between agencies. For government conducted reviews, these activities would include: approval of type, scope, extent of the review; extent of contractor involvement; approval of team recommendations; and, approval of the report. The review director approves the assignment of the team chief and team membership. The areas of review to be emphasized must be established by the review director at the outset of the review. For contractor conducted reviews, the review director is the point of contact between the contractor and the government agencies affected by the implementation of the EVMS, and is responsible to the Executive Agent for ensuring the adequacy of the self-evaluation process.

4-3.h Team Composition. Whether the review is primarily conducted by the contractor or the government, team members should be experienced and understand the criteria. Knowledge of both the program and the contract is desirable. Formal training, such as that provided by the members schools of the Defense Acquisition University (DAU), or other recognized educational institutions, is recommended. Required skills may also be obtained by training and experience implementing, maintaining and operating company earned value management systems. The review director and team members will be formally assigned to the team. It is essential that the team include members from the PMO. A partnering approach should be sought, with both contractor and government members contributing.

The review director will make all necessary arrangements to ensure availability of team members for the time required for preliminary indoctrination, training, and each review for which a team member is needed. Members will be administratively responsible to the review director during the period of the review.

4-3.i. Prior Acceptance. Contractors whose EVMS was accepted for application to another contract of the same type (for example, development or production) at the same facility will not be required to undergo a compliance evaluation on a new contract.

4-3.j. Progress Assistance Visit (PAV). Where the review is conducted by the government, as soon as possible after contract award, preferably within 30 days, representatives of the review team should visit the contractor's plant and review the contractor's plans for implementing a criteria-compliant EVMS. The visit includes an initial review of the system description. Areas of noncompliance and potential problems will be identified. This visit provides an early dialogue between the review team and the contractor on the compliance evaluation process. During this preliminary visit the contractor will usually make presentations on the systems' design and operation and explain applicable reports. The team will examine selected documents and procedures proposed by the contractor and a schedule will be developed for future visits, the IBR, and the Compliance Evaluation.

The Progress Assessment is held by representatives of the review team with the contractor before the compliance evaluation. Without involving the time and expense of the full team, it provides an opportunity to review progress toward implementing the criteria, to resolve misunderstandings, and to assess the contractor's readiness to demonstrate a fully integrated earned value management system. It assists in the preparation for the Compliance Evaluation review by familiarizing key team members with the fundamentals of the EVMS. Any discrepancies should be identified for correction. Team members should not design or recommend changes to systems to meet the criteria. Recommendations for system improvements should be forwarded to the review director and/or the team chief for evaluation and discussion with the contractor. Where actual deficiencies have been identified, the contractor will be afforded an opportunity to correct them. Every attempt should be made to finalize the system description during the Progress Assistance visits.

4-3.k. EVMS Demonstration. The Compliance Evaluation will begin as soon as practicable following the implementation of the EVMS. The contractor should have current written descriptions available which describe the EVMS. Applicable portions of the systems descriptions and operating procedures must also be available at the contractor's operating levels. The review team will examine the contractor's working papers and documents to ascertain compliance and document its findings. The contractor will make documents used in the contractor's EVMS available to the team. The documentation must be current and accurate. The contractor will demonstrate to the team how the EVMS is structured and used in actual operation.

4-3.l. Conduct of the Compliance Evaluation: The system characteristics contained in Appendix B will be used by the team in conducting the compliance evaluation. Use of the EVMS Evaluation Guide will ensure completion of an orderly, comprehensive and conclusive review.

The following are activities that will be performed to the extent necessary during the Compliance Evaluation:

- (1) An overview briefing by the contractor to familiarize the review team with the proposed earned value management system, identifying any changes which have occurred since the most recent Progress Assistance visit.
- (2) A review, on a sample basis, of the documentation which establishes and records changes to the baseline plan for the contract. This will include work authorizations, schedules, budgets, resource plans, and change records (including management reserve and undistributed budget records). The purpose is to verify that the contractor has established and is maintaining a valid, comprehensive integrated baseline plan for the contract. (A successful IBR should obviate the need for this portion of the review.)
- (3) A review, on a sample basis, of the reporting of cost and schedule performance against the baseline plan, along with appropriate analyses of problems and projection of future costs. Also, a tracing of the summarization of cost/schedule performance data from the lowest level of formal reporting (normally the control account level) to the external performance measurement report. The purpose of this activity is to verify the adequacy of the control aspects of the systems and accuracy of the resulting management information.

(4) Interviews with a selected sample of control account managers, functional and other work teams, and program managers to verify that the contractor's EVMS is fully implemented and being used in the management of the contract.

(5) An exit briefing covering the team's findings. During this briefing, any open system discrepancies should be discussed along with the contractor's corrective action plan which establishes responsibility and a time-frame for corrective action.

NOTES: 1. The sample reviewed should be sufficient to verify the compliance and implementation of the EVMS. While it may not be necessary to review 100% of all documentation and program personnel, too small a sample may not provide sufficient visibility into possible system problems. Samples should be selected to focus on the areas of greatest risk. If significant problems are found, the sample size, and, if necessary, the duration of the review, should be extended. The assessment will be closed when the contractor has made all necessary corrections to the satisfaction of the review director.

2. Contractor self-evaluation will be expected to follow processes similar to those of paragraphs 4-3.k and l.

4-3.m. Acceptance. At the conclusion of the compliance evaluation review, a report will be prepared by the review director within 30 working days after completion and approval of all significant corrective actions. The report will be provided to the Executive Agent for acceptance of system compliance. Appendix C discusses the format and content of the report. On contractor self-evaluation, it is the responsibility of the government review director to coordinate recognition of the EVMS with the Executive Agent and cognizant ACO.

4-3.n. Third Party Certification. Provision is made for possible future third party certification of a contractor EVMS. Such third party certification would involve approval of an EVMS to a standard recognized by DoD as equivalent to the EVMS Criteria by an independent organization accredited by the standard owning authority recognized by DoD.

4-4. Post Acceptance Reviews For Cause

4-4.a. Policy. After the initial acceptance of a contractor's EVMS, no further system evaluation reviews will be conducted unless there is a serious need determined by the government. The decision to conduct a post-acceptance review may occur when conditions warrant, e.g. solving a major system application problem identified by the program manager or surveillance monitor on a specific contract. To the extent possible, problems should be resolved as part of the normal surveillance process (refer Figure 3-1) rather than by invoking additional reviews.

The key element in the decision process is the impact of the event on previously approved processes. Input from the contractor and surveillance organizations should be considered in determining the need for and the scope of the review.

Regardless of cause, the scope and conduct of the review will be limited to focusing on the system processes that are affected. The review approach and team composition will be determined consistent with the philosophy described in paragraph 4-3d, Review Process Ownership.

4-4.b. Objectives. The primary objectives of the review are: to identify actions required to reaffirm system acceptability; to ensure the accuracy and acceptability of performance data generated on government contracts; and, to respond to contractor requests for assistance in assessing new or changing processes.

When a post-acceptance review is determined to be required, the scope of the review will be jointly established by the Review Director, surveillance activity, the PMO, the EVMSO and the contractor. The Review Director will notify the Executive Agent as to what degree of review is required.

4-4.d. Responsibilities. Responsibilities are covered at 4-3.g above.

4-4.e. Relationship to the Integrated Baseline Review (IBR). In the event that an IBR has not been conducted on the affected contract, every effort should be made to combine the IBR with this review. However, completion of the IBR should not be delayed to accommodate scheduling of the reviews.

4-4.f. Conduct of the Review. The review will be scheduled based on written government notification. The team composition and the duration of the review should be the minimum necessary to accomplish the task. The review is led by a Review Director assigned by the Executive Agent, and usually includes participation by the PMO and the cognizant CAO. Contractor personnel should participate in the review. Those portions of the EVMS designated for review must be identified at the start of the review. Additionally, analysis of any previous review findings and surveillance reports should be made to identify areas of special interest.

4-4.g. Review Procedures. The basic review routine is similar to that of a compliance evaluation review. The use of the EVMS Evaluation Guide is appropriate for reviews where compliance evaluation of specific areas are required. It is to be carefully noted, however, that it is not intended to be pursued to the extent that it would result in a full re-evaluation of the contractor's EVMS.

4-4.h. Report and Acceptance. At the conclusion of the review, a formal report will be prepared by the review director within 30 working days after completion and approval of all significant corrective actions. . The report will be provided to the Executive Agent for acceptance of system compliance. Appendix C discusses the format and content of the report.

4-5. Deficiencies in the Previously Accepted System. In those instances where surveillance activities, program office analysis of performance data or where a review team determines that the contractor's accepted management system does not meet the criteria requirements, the contractor and ACO should be promptly notified. The information provided must detail the specific area of deviation. The procuring activity and EVMSO should be notified of major deficiencies and advice should be obtained from all parties.

If the contractor disagrees that there is a problem and does not propose an acceptable change to the system, the appeal procedures outlined in Part 2, paragraph 1-6 of this guide will apply.

APPENDIX A
DOD FEDERAL ACQUISITION REGULATIONS SUPPLEMENT

SOLICITATION PROVISION

252.234-7000 Notice of Earned Value Management Systems.

As prescribed by 234.005-70, use the following provision:

NOTICE OF EARNED VALUE MANAGEMENT SYSTEMS (XXXX)

(a) The offeror shall

CLAUSE HELD PENDING AGREEMENT OF DFARS CLAUSE

CONTRACT CLAUSE

252.234-7001 Earned Value Management Systems.

As prescribed at 234.005-70 use the following clause:

EARNED VALUE MANAGEMENT SYSTEMS (XXXX)

- (a) The Contractor shall

CLAUSE HELD PENDING AGREEMENT OF DFARS CLAUSE

APPENDIX B

EARNED VALUE MANAGEMENT SYSTEM EVALUATION GUIDE

ORGANIZING PROCESS GROUP

APPENDIX B

EARNED VALUE MANAGEMENT SYSTEM EVALUATION GUIDE

Within each group, the applicable criteria are listed along with references to the criteria discussion in Part 1 Section 3. Management system characteristics expected in a good EVMS relative to each criterion are given, along with typical documents that support these characteristics.

ORGANIZING PROCESS GROUP

Criterion 1. Define the authorized work elements for the program. A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process. (See Criteria Discussion Page 7; Paragraph 3-1a)

1. A comprehensive statement of work (SOW) defining project work requirements is prepared.
2. Correlation between the SOW and the work breakdown structure (WBS) assigning segments of work to appropriate WBS elements.
3. A WBS dictionary will capture this correlation. (Optional)

Documents: CWBS (and CWBS Dictionary, if applicable); Contract Statement of Work; Work authorizations.

Criterion 2. Identify the program organizational structure including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled.. (See Criteria Discussion Page 7; Paragraph 3-1.b)

1. Early identification of a program organization structured for efficient execution of the project work efforts.
2. Integration of the major subcontractors into the project structure.

Documents: CWBS (and CWBS Dictionary if applicable); Contractor organization charts

Criterion 3. Provide for the integration of the company's planning, scheduling, budgeting, work authorization and cost accumulation processes with each other, and as appropriate, the program work breakdown structure and the program organizational structure. (See Criteria Discussion Page 7; Paragraph 3-1.c)

1. Integration of the various subsystems into an EVMS which provides timely and valid project information to management.
2. Establishment of control accounts at the appropriate organizational level, optimized for efficient project management.

Documents: Internal performance measurement reports.

Criterion 5. Provide for integration of the program work breakdown structure and the program organizational structure in a manner that permits cost and schedule performance measurement by elements of either or both structures as needed. (See Criteria Discussion Page 9, Paragraph 3-1.d)

1. Defines control accounts in terms of organizational versus WBS responsibility and establishes manageable subdivisions of the project effort.
2. Provides earned value information at this level for effective resource planning.

Documents: Internal performance measurement reports; Manufacturing breakdown structure (if applicable); CWBS.

Criterion 9. Establish budgets for authorized work with identification of significant cost elements (labor, material, etc.) as needed for internal management and for control of subcontractors. (See Criteria Discussion Page 9, Paragraph 3-1.e)

1. Early authorization for project management to proceed with the effort and to commit company resources.

2. A process for establishing organizational authority to proceed with project effort through the expenditure of resources at the control account level.

Documents: Work authorization documents for organizational elements.

Criterion 10. *To the extent it is practical to identify the authorized work in discrete work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far term effort in larger planning packages for budget and scheduling purposes. (See Criteria Discussion Page 9, Paragraph 3-1.f)*

1. Work packages are established for identified tasks and assigned to a contractor organization for performance.

2. Ideally, a single contractor organization (functional, matrix, IPT, etc.) is given responsibility for completion of identified work packages.

Documents: Control account plans

Criterion 22 *At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:*

(1) *Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.*

(2) *Comparison of the amount of the budget earned with the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.*

Criterion 26. *Implement managerial actions taken as the result of earned value information. (See Criteria Discussion Page 9, Paragraph 3-1.d)*

1. Managers assigned responsibility for completing work segments are given authority commensurate with that responsibility.

2. Managers are provided control of assigned resources (ability to prioritize work) necessary to ensure work completion and the implementation of any corrective actions and/or work-around plans.

Documents: Manager interview results

Criterion 27. *Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements. (See Criteria Discussion Page 9, Paragraph 3-1.g)*

1. Managers are required to coordinate resource requirements (positive or negative) with the providing organization as a result of EAC updates.

Documents: System description; EAC procedure; Results of intermediate level manager interviews

SCHEDULING PROCESS GROUP

Criterion 6. *Schedule the authorized work in a manner which describes the sequence of work and identifies significant task interdependencies required to meet the requirements of the program. (See Criteria Discussion Page 9, Paragraph 3-2.a)*

1. The scheduling system contains a program master schedule reflecting contractual requirements, significant decision points, and key program milestones.

2. Subordinate schedules provide a logical link from the level where work is being performed to the program master schedule and provide for program interdependencies as necessary (vertical dependency)

3. The schedules provide for identification of product-oriented interdependencies supporting completion of contractual effort (horizontal dependency).

Documents: Schedule Trace; Program Schedules

Criterion 7. *Identify physical products, milestones, technical performance goals, or other indicators that will be used to measure progress. (See Criteria Discussion Page 9, Paragraph 3-2.b)*

1. The use of meaningful indicators to measure actual work progress forms the basis for higher level schedule status.

Documents: Schedule Trace; Program Schedules; Manager Interview Results

Criterion 23. Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management. (See Criteria Discussion Page 10, Paragraph 3-2.c)

1. The specific activities and events that contribute to the schedule variance can be identified in program schedules.

2. The schedule variance metric provides early insight into detail schedule conditions and overall schedule performance and should be used in conjunction with milestone status reports, critical path data, and other schedule status information for project management.

Documents: Schedule Trace; Schedule variance analysis documents

WORK/BUDGET AUTHORIZATION PROCESS GROUP

Criterion 8. Establish and maintain a time-phased budget baseline, at the control account level, against which program performance can be measured. Budget for far-term efforts may be held in higher level accounts until an appropriate time for allocation at the control account level. Initial budgets established for performance measurement will be based on either internal management goals or the external customer negotiated target cost including estimates for authorized but undefinitized work. On government contracts, if an over target baseline is used for performance measurement reporting purposes, prior notification must be provided to the customer. (See Criteria Discussion Page 10, Paragraph 3-3.a)

1. The program baseline is the summation of the time-phased budgets for all of the control accounts and summary level planning packages plus applicable indirect budgets and any undistributed budget.

2. The performance measurement baseline is a representation of current program plans. Proper maintenance of the baseline will prevent performance measurement against an outdated or unauthorized plan.

3. For management reasons, a project may elect to establish a program budget that exceeds the program target cost. The customer will be consulted prior to implementation of the change.

Documents: Control account plan; work authorizations; summary planning documentation; internal time-phased baseline documents.

Criterion 9. Establish budgets for authorized work with identification of significant cost elements (labor, material, etc.) as needed for internal management and for control of subcontractors. (See Criteria Discussion Page 11, Paragraph 3-3.c)

1. A resource plan is the time-phased budget which is developed at the control account level in accordance with assigned work scope and schedule requirements (due dates) and stated in terms of direct labor hours, and/or dollars or ODC.

2. Authorization to proceed with work should correlate as closely as possible to the actual commencement of that effort.

Documents: Cost account plans; work/budget authorizations; program schedules.

Criterion 10. To the extent it is practical to identify the authorized work in discrete work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far term effort in larger planning packages for budget and scheduling purposes. (See Criteria Discussion Pages 11 & 12 Paragraph 3-3.f, 3-3.h and Paragraph 3-3.i.)

1. A work package is a natural subdivision of the control account and reflects the actual way in which the work will be performed.

2. Detailed work packages contain objective indicators/milestones to minimize subjectivity in progress assessment.

3. A planning package is a holding account (within a control account) for budget for future work that it is not yet practical to plan at the work package level. The planning horizon for this effort will be based on project management needs.

4. Earned value management using a standard hour methods is commonly employed in manufacturing organizations. It is scheduled and tracked on the basis of physical accomplishment. The techniques applied include the usage of learning curves and realization factors for planning and performance measurement.

5. Apportioned effort is work for which the planning and progress is tied to other discrete efforts. The budget for the apportioned account will be time-phased in relation to the resource plans for the base account(s).

6. The relationship between the discrete effort and apportioned effort is consistent throughout the period of performance of the affected control accounts.

Documents: Cost account plans, manager interview results, work authorization documents, and schedules; Manufacturing Cost Account Plans, Internal Factory Standards Planning documents, Internal BCWS reports.

Criterion 11. *Provide that the sum of all work package budgets plus planning package budgets within a control account equals the control account budget. (See Criteria Discussion Page 12, Paragraph 3-3.g.)*

1. The sum of all work package budgets and planning package budgets within a control account will equal the total budget assigned to the control account.

Documents: Internal Performance Measurement documents; control account plans.

Criterion 12. *Identify and control level of effort activity by time-phased budgets established for this purpose. Only that effort which is unmeasurable or for which measurement is impractical may be classified as level of effort. (See Criteria Discussion Page 12, Paragraph 3-3.j.)*

1. LOE is work scope of a general or supportive nature for which performance cannot be measured or it is impractical to measure. There is no definable end-product.

2. Discrete effort and LOE should be separately evaluated to ensure the integrity of performance measurement data.

Documents: Manager interview results, Control Account Plans

Criterion 14. *Identify management reserves and undistributed budget. (See Criteria Discussion Page 12, Paragraph 3-3.g.)*

1. Management reserve is held for work scope growth, rate changes, and other program unknowns.

2. A project should be able to account for all management reserve at the total contract level.

3. Undistributed budget is budget that is associated with a defined scope of work not allocated either to control accounts or summary level planning packages.

4. A project should be able to account for all undistributed budget at the contract level.

Documents: Budget records (including MR and UB records)

Criterion 15. *Provide that the program target cost goal is reconciled with the sum of all internal program budgets and management reserves.. (See Criteria Discussion Page 13, Paragraph 3-3.l.)*

1. The initial program budget is normally tied directly to the negotiated contract cost or estimated negotiated cost. The program budget, at any level and for any organization or task, will only contain budget for specific authorized work

2. The program baseline is the summation of the time-phased budgets for all of the control accounts and summary level planning packages plus applicable indirect budgets and any undistributed budget. Management reserve is not included in the performance measurement baseline as it has not been allocated to specific work scope.

Documents: Budget Records, external reports, Contractual instruments, internal performance measurement reports

Criterion 22 *At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:*

(1) *Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.*

(2) *Comparison of the amount of the budget earned with the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance. (See Criteria Discussion Page 13, Paragraph 3-3.m.)*

1. To ensure valid comparisons of scheduled effort and actual costs to earned value, it is important that an appropriate technique for assessing progress be established for each segment of work.

2. Objective methods should be used where practicable.
- Documents: Cost Account Plans

ACCOUNTING PROCESS GROUP

Criterion 16. *Record direct costs in a manner consistent with the budgets in a formal system controlled by the general books of account. (See Criteria Discussion Page 13, Paragraph 3-4.a and Paragraph 3-4.d.)*

1. The contractor's accounting system provides a basis for auditing records of all direct costs that can be charged to the contract.
2. The accounting system collects actual direct costs and assigns these costs to control accounts on the same basis budgets were established.

Documents: Generally Acceptable Accounting Procedures (GAAP), Contractor's accounting manual, Disclosure statement

Criterion 17. *Summarize direct costs from control accounts into the work breakdown structure without allocation of a single control account to two or more work breakdown structure elements. (See Criteria Discussion Page 13, Paragraph 3-4.b.)*

1. The project established cost charging structure will ensure that actual costs are collected so that direct comparison with associated budgets can be made at the appropriate WBS level(s).

Documents: Internal performance measurement reports, CPR, CWBS

Criterion 18. *Summarize direct costs from the control accounts into the contractor's organizational elements without allocation of a single control account to two or more organizational elements. (See Criteria Discussion Page 13, Paragraph 3-4.c.)*

1. The project established cost charging structure will ensure that actual costs are collected so that direct comparison with associated budgets can be made at the appropriate organizational level(s).

Documents: Internal performance measurement reports, OBS, external reports.

Criterion 20. *Identify unit costs, equivalent units costs, or lot costs when needed. (See Criteria Discussion Page 13, Paragraph 3-4.e.)*

1. When required by the contract, the contractor's accounting system must be capable of accumulating actual cost by unit or lot, as appropriate.
2. The contractor's accounting system may also be capable of separating actual costs into recurring and non-recurring categories when required by the contract.

Documents: Charge number structure, Contract data requirements, Accounting manual

Criterion 22 *At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:*

- (1) *Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.*
- (2) *Comparison of the amount of the budget earned with the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance. (See Criteria Discussion Page 14, Paragraph 3-4.f.)*

1. The EVMS will use actual cost data from the company accounting system as appropriate for accurate reporting of program performance.

Documents: Internal performance reports, variance analysis documents, accounting system data

Criterion 30. *Control retroactive changes to records pertaining to work performed that would change previously reported amounts for actual costs, earned value, or budgets. Adjustments should be made only for correction of errors, routine accounting adjustments, effects of customer or management directed changes, or to improve the baseline integrity and accuracy of performance measurement data. (See Criteria Discussion Page 14, Paragraph 3-4.g.)*

1. The contractor's accounting system will provide for control over retroactive adjustments to actual costs to ensure management value of performance measurement information is not compromised.

Documents: Journal vouchers, Accounting manual

INDIRECT MANAGEMENT PROCESS GROUP

Criterion 4 Identify the company organization or function responsible for controlling overhead (indirect costs). (See *Criteria Discussion Page 14, Paragraph 3-5.a.*)

1. Managerial positions responsible for establishing and controlling indirect budgets are clearly identified in the contractor's organizational structure.

2. The responsibilities and authorities are clearly described.

Documents: Organization charts, Overhead budgeting policies and procedures.

Criterion 8. Establish and maintain a time-phased budget baseline, at the control account level, against which program performance can be measured. Budget for far-term efforts may be held in higher level accounts until an appropriate time for allocation at the control account level. Initial budgets established for performance measurement will be based on either internal management goals or the external customer negotiated target cost including estimates for authorized but undefinitized work. On government contracts, if an over target baseline is used for performance measurement reporting purposes, prior notification must be provided to the customer. (See *Criteria Discussion Page 14, Paragraph 3-5.b.*)

1. The performance measurement baseline contains budgets for indirect costs at the level appropriate for project and/or company management.

Documents: Cost account plan, summary planning documentation, internal time-phased baseline documents.

Criterion 13. Establish overhead budgets for each significant organizational component of the company for expenses which will become indirect costs. Reflect in the program budgets, at the appropriate level, the amounts in overhead pools that are planned to be allocated to the program as indirect costs. (See *Criteria Discussion Page 14, Paragraph 3-5.c.*)

1. Projected indirect costs, CWBS and organizational levels, are established by a rational, traceable budgeting process.

2. The contractor's CAS Disclosure Statement defines the content and processes of the contractor's indirect management process. It normally includes a definition of indirect expenses, overhead pools are described and each item of cost assigned to each overhead pool.

3. A methodology will exist for the application of overhead rates to a contract that will cover the period of performance for the contract.

4. Projected indirect rates are adjusted in a timely manner to reflect changes in (a) the current or projected base, (b) the level of overhead expenditures, and (c) the overhead structure. The EVMS normally will use the most current overhead rates to establish the PMB.

Documents: DCAAM 7640.1, FAR 31.203, Organization Charts, CAS Disclosure Statement, Contractor's Overhead Policies and Procedures

Criterion 19. Record all indirect costs which will be allocated to the contract. (See *Criteria Discussion Page 14, Paragraph 3-5.d.*)

1. The contractor's accounting system provides for the summarization of indirect costs from the point of allocation through the CWBS and OBS to the total contract level.

2. Overhead rates are updated frequently enough to ensure a realistic monthly allocation of indirect costs without significant adjustments to performance measurement information.

Documents: CASB Disclosure Statement; DCAA Audit Reports, Organization Charts; Accounting Manual

Criterion 24. Identify budgeted and applied (or actual) indirect costs at the level and frequency needed by management for effective control, along with the reasons for any significant variances. (See *Criteria Discussion Page 14, Paragraph 3-5.e.*)

1. The evaluation of variances between indirect budgets and costs will initiate management action to correct the causes of the variances.

2. Indirect variances will normally be recorded by element of expense.

Documents: Overhead budgeting policies and procedures

Criterion 27. Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements. (See *Criteria Discussion Page 15, Paragraph 3-5.f.*)

1. To ensure the most accurate rates are used for EAC purposes, the contractor's system will base these rates on: historical experience; contemplated management improvements; projected economic escalation; anticipated business volume.
Documents: Rate tables for EAC valuation, Supporting rationale for projected rates

MANAGERIAL ANALYSIS PROCESS GROUP

Criterion 22 *At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:*

- (1) Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.*
- (2) Comparison of the amount of the budget earned with the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.*

Criterion 23. *Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management (See Criteria Discussion Page 15, Paragraph 3-6.a&b.)*

1. The contractor has a process for identifying and isolating the causes of favorable and unfavorable cost and schedule variances.
2. The level and extent of analysis of these variances will be a function of the way an individual contractor manages projects.

Documents: Variance analysis supporting documentation, Results of manager interviews

Criterion 25. *Summarize the data elements and associated variances through the program organization and/or work breakdown structure to support management needs and any customer reporting specified in the contract. (See Criteria Discussion Page 16, Paragraph 3-6.c.)*

1. The EVMS will accurately summarize budgets, earned value, and actual costs and the associated variances up through both the CWBS and the contractor's organization.
2. Variance analysis for CWBS and organizations at levels above the control account is performed in support of internal management needs and external customer requirements.

Documents: Variance analysis procedures and supporting documentation

Criterion 26. *Implement managerial actions taken as the result of earned value (See Criteria Discussion Page 16, Paragraph 3-6.c.)*

1. Managers at the control account, intermediate and program levels are involved in the evaluation of performance measurement data.
2. Corrective actions are initiated at the appropriate level and tracked to resolution.
3. Management data, to be of value, must be generated in a timely manner and be accurate.

Documents: Internal data reports, Action item lists, Program status review documents, CPR

Criterion 27. *Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements. (See Criteria Discussion Page 16, Paragraph 3-6.e.)*

1. A company should periodically reassess the remaining requirements on a program and maintain a most likely estimate of the cost to complete the program objectives, based on an assessment of: actual costs to date; commitment values for material items (if applicable); performance to date; knowledgeable projections of future performance; estimates of economic escalation.
2. The process of reassessment should focus on the control accounts, but must ensure that all resource requirements are considered.
3. Managers evaluate the estimate to complete on a monthly basis, updating when required.
4. Program risk and potential cost avoidance areas are periodically assessed, and their impact on contract cost estimates are communicated to the customer in program status reviews and/or external reports.

5. The current estimates of costs at completion are compared with corresponding budgets and the causes of variances are identified.

6. The results of the EAC process are communicated to the customer in reports and in funding documents to help assure that sufficient funding for the program is maintained.

Documents: Cost Performance Report, Internal performance measurement reports, EAC Supporting documentation

CHANGE INCORPORATION PROCESS GROUP

Criterion 28. *Incorporate authorized changes in a timely manner, recording the effects of such changes in budgets and schedules. In the directed effort prior to negotiation of a change, base such revisions on the amount estimated and budgeted to the program organizations. (See Criteria Discussion Page 16, Paragraph 3-7.a.)*

1. Authorized changes should be incorporated in the performance measurement baseline as soon as practical.

2. The incorporation of changes includes revisions to schedules, budgets, work authorizing documents, and any other appropriate changes (including appropriate retroactive changes) necessary to properly reflect authorized revisions.

3. Budgets for changes authorized, but not yet priced, are normally based on the contractor's resource plan for accomplishing the work. Near term budgets should be issued for performance measurement purposes.

Documents: Contract change documentation.

Criterion 29. *Reconcile current budgets to prior budgets in terms of changes to the authorized work and internal replanning in the detail needed by management for effective control (See Criteria Discussion Page 16, Paragraph 3-7.b.)*

1. Internal adjustments to plans for future actions is a normal management process as things happen and situations change. It is important to ensure that overall program scope, cost, and schedule objectives are supported and retroactive changes are properly controlled to maintain the integrity of program performance data

2. The contractor should be able to trace current budget values back to original budget values for reconciliation to contract line item values, as necessary.

Documents: Budget revision records; Change control records, Manager interview results

Criterion 30. *Control retroactive changes to records pertaining to work performed that would change previously reported amounts for actual costs, earned value, or budgets. Adjustments should be made only for correction of errors, routine accounting adjustments, effects of customer or management directed changes, or to improve the baseline integrity and accuracy of performance measurement data. (See Criteria Discussion Page 16, 17, Paragraph 3-7.c & d.)*

1. A company must be able to make routine accounting adjustments and correct data errors, but it should also control changes to prior and current period data to prevent inappropriate changes from being made in the performance measurement information.

2. Corrections should be made if wrong data is significantly affecting the management value of the system but the validity and value of management reports will be compromised if current plans or program history (performance to date information) are constantly changing.

Documents: Authorization documents for retroactive budget adjustments; Manager interview results

Criterion 31. *Prevent revisions to the program budget except for authorized changes. (See Criteria Discussion Page 17, Paragraph 3-7.e.)*

1. The contractor should ensure that changes to the contract budget base (see definition) are limited to those authorized by contractual action.

Documents: Change control procedures; Budget logs

Criterion 32. *Document changes to the performance measurement baseline. (See Criteria Discussion Page 17, Paragraph 3-7.e & f.)*

1. The performance measurement baseline should reflect the current program management plan for accomplishment of program objectives. If the maintenance of baseline plans is compromised, the information on management reports will be degraded.

2. A company must be able to make routine accounting adjustments and correct data errors, but it should also control changes to prior and current period data to prevent inappropriate changes from being made in the performance measurement information. Documents: CPR; Budget logs; Change authorization documents.

MATERIAL MANAGEMENT PROCESS GROUP

Criterion 9. Establish budgets for authorized work with identification of significant cost elements (labor, material, etc.) as needed for internal management and for control of subcontractors. (See Criteria Discussion Page 18, Paragraph 3-8.a.)

1. Budgets assigned to control accounts for material requirements are properly planned and supported by material requirement documents.

2. Material budgets are time-phased in support of internal schedule requirements.

Documents: Material Control Account Plans; Bill of Material; Program schedules

Criterion 10. To the extent it is practical to identify the authorized work in discrete work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far term effort in larger planning packages for budget and scheduling purposes. (See Criteria Discussion Page 18, Paragraph 3-8.b.)

1. A material work package is a natural subdivision of the control account and reflects the actual way in which the work will be performed, contains adequate objective indicators/milestones to minimize subjectivity, and is a meaningful product or management-oriented subdivision of a higher level element of work (control account).

2. A material planning package is a holding account (within a control account) for budget for future work that is not yet practical to be planned at the work package level. The planning horizon for this effort will be based on project management needs.

3. The contractor should be able to substantiate material work package and planning package budgets in terms of requirements to support project objectives and plans.

Documents: Cost account plans; manager interview results; work authorization documents; schedules.

Criterion 12. Identify and control level of effort activity by time-phased budgets established for this purpose. Only that effort which is unmeasurable or for which measurement is impractical may be classified as level of effort. (See Criteria Discussion Page 12, Paragraph 3-3.j.)

1. Material items are appropriately planned in discrete, apportioned or LOE control accounts.

2. High-dollar value or critical material items should be discretely tracked to ensure their availability to support program needs.

Documents: Control account plans; Material manager interview results

Criterion 21. For EVMS, the material accounting system will provide for:

(1) Accurate cost accumulation and assignment of costs to control accounts in a manner consistent with the budgets using recognized, acceptable, costing techniques.

(2) Cost performance measurement at the point in time most suitable for the category of material involved, but no earlier than the time of progress payments or actual receipt of material.

(3) Full accountability of all material purchased for the program including the residual inventory.

(See Criteria Discussion Page 18, Paragraph 3-8.c.)

1. The contractor's material control procedures should include the following requirements: a) material costs (normally on an applied basis) are being reported within the same accounting period as the associated earned value, b) cost performance for material occurs at the point of time most suitable for the type of material involved, but no earlier than point of receipt; and, c) all materials purchased for the contract are fully accounted for (including residual inventory).

2. The contractor should be able to determine unit, equivalent unit, and lot costs by type and amount of material as necessary.

Documents: Material Trace; Internal performance reports

Criterion 22 At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:

- (1) Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.
- (2) Comparison of the amount of the budget earned with the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.

Criterion 23. Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management. (See Criteria Discussion Page 18 & 19, Paragraph 3-8.d.)

1. The contractor has a process for identifying and isolating the causes of favorable and unfavorable cost and schedule variances for material control accounts.
2. The level and extent of analysis of these variances will be dependent on individual contractor business processes.
- 3) When significant amounts of material are involved, the contractor should be able to identify the price variance component of the material cost variance separately from the portion attributable to excess usage).

Documents: Material Trace; Material variance analysis documentation; Internal material performance data

Criterion 27. Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements. (See Criteria Discussion Page 19, Paragraph 3-8.e.)

1. A company should periodically reassess the remaining material requirements on a program and maintain a most likely estimate of the cost to complete the program objectives, based on an assessment of: actual costs to date; commitment values for material items; performance to date; knowledgeable projections of future performance; and, estimates of economic escalation.
2. Additional requirements for material items are properly coordinated with management and the material procurement organization.
3. Material budgets at completion are compared to estimates for material, causes of the variances are explained, and management action is taken.
4. Material EACs should be evaluated periodically and updated based on management needs and program procedures. This calculation includes the impact of unrecoverable price variances and additional material requirements due to excess usage.

Documents: Cost Performance Report; Internal performance reports; EAC Supporting documentation

SUBCONTRACT MANAGEMENT PROCESS GROUP

Criterion 2. Identify the program organizational structure including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled. (See Criteria Discussion Page 19, Paragraph 3-9.a.)

1. The project will identify the appropriate organization(s) with responsibility for managing the performance of the major subcontractor(s).
2. Major subcontractors will be identified to a scope of work and its related WBS elements.

Documents: CWBS and CWBS Dictionary (if applicable); Contractor organization charts

Criterion 9. Establish budgets for authorized work with identification of significant cost elements (labor, material, etc.) as needed for internal management and for control of subcontractors. (See Criteria Discussion Page 19, Paragraph 3-9.b & c.)

1. Budgets assigned to control accounts for subcontracted items are planned and supported by time-phased information from the subcontractor.
2. Time-phased control account budgets for the subcontractors will support internal and contractual schedule requirements.

Documents: Subcontract control account plans; BCWS supporting documentation; Program schedules

Criterion 10. *To the extent it is practical to identify the authorized work in discrete work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far term effort in larger planning packages for budget and scheduling purposes. (See Criteria Discussion Page 20, Paragraph 3-9.d.)*

1. Work package and planning package budgets for subcontractors represent the subcontractor's plan for supporting contract effort and are based on subcontractor and/or in-house documentation.

Documents: Control account plans; manager interview results; work authorization documents; schedules

Criterion 12. *Identify and control level of effort activity by time-phased budgets established for this purpose. Only that effort which is unmeasurable or for which measurement is impractical may be classified as level of effort. (See Criteria Discussion Page 12, Paragraph 3-3.i.)*

1. Subcontract control accounts planned as LOE, will be supported by other management processes to allow project visibility into the work being performed by the subcontractor.

2. Subcontract LOE budgets are appropriately separated from the prime's LOE budgets to avoid distortion of performance measurement information.

Documents: Subcontract Cost Account plans; Subcontract scope of work descriptions; Subcontract manager interviews

Criterion 16. *Record direct costs in a manner consistent with the budgets in a formal system controlled by the general books of account. (See Criteria Discussion Page 13, Paragraph 3-4.a and Paragraph 3-4.d.)*

1. The contractor's subcontract management process should include the following capabilities:

a) subcontract costs are being reported within the same accounting period as the associated earned value.

b) where subcontract actuals are not available, estimated actuals are used.

c) where progress payments are made to the subcontractor, reconciliation to reported earned value, i.e., progress is made.

d) if the subcontractor supports multiple CWBS elements, methodologies are in place to assign actual costs to the appropriate elements, including overhead, G&A, MR, and profit/fee.

Documents: Subcontractor progress payment requests; Internal and external performance reports; Subcontract control account plans

Criterion 22 *At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:*

(1) *Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.*

(2) *Comparison of the amount of the budget earned with the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.*

Criterion 23. *Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management. (See Criteria Discussion Page 20, Paragraph 3-9.f.)*

1. The manager responsible for subcontractor performance will receive, review and provide analysis of the subcontractor's performance measurement information.

2. Subcontractor performance measurement information is properly integrated into the prime's data, adjusted, as appropriate, and reconciled to the subcontractor's reports.

3. The subcontractor manager ensures that earned value reported by the subcontractor reconciles to actual physical progress reflected in subcontractor progress payment requests.

Documents: Subcontractor performance reports; Prime to subcontractor reconciliation's; Progress payment requests.

Criterion 27. Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements. (See Criteria Discussion Page 20, Paragraph 3-9.g.)

1. Subcontract EACs should be based on: a) actual costs to date, b) commitment values for subcontracted items, c) performance to date as reported in the subcontractor's report and analyzed by the subcontract manager, d) knowledgeable projections of future performance, and e) estimates of economic escalation.

2. The subcontract manager prepares an independent estimate of subcontractor costs and reports it to the customer as appropriate.

3. Subcontract BAC (internal and external) is compared to estimates and causes of variance are explained.

Documents: Subcontract estimate supporting documentation; Subcontractor performance reports.

APPENDIX C

EVALUATION REVIEW REPORTS

1. Report Preparation: Each type of review report will vary based on the scope and goals of the review. Preparation of review reports, if required, is a team leader responsibility. Sections of the report may be delegated to individual team members. A draft of the report should be made available prior to departing the contractor's facility. Every effort should be made to minimize the size of review reports. Focus should be on identification and resolution of non-compliance and/or baseline issues.

Reporting the results of the IBR will take whatever form the program manager deems appropriate. It should address any action items that have been agreed upon between the contractor and the procuring activity. When applicable, it should summarize the findings that require corrective action and assign the surveillance of the corrective action to the CAO. Issues that could impact the decision to conduct a formal earned value management review should also be identified and provided to the Executive Agent.

2. Report Format and content.

A. Table of Contents.

B. Introduction. Identify the contract purpose, type, duration, amounts (total, ceiling price, target costs, etc.), the program being supported, and the cognizant government component. Also, identify the specific contract requirement for an earned value management system, and indicate other work in the contractor's facility that has the EVMS requirement.

C. Purpose. Identify the purpose of the review.

D. Scope. Identify the specific contractual entity that is the subject of this review; for example, division, company, plant, and the functional organizations, such as engineering, manufacturing, quality assurance, or individual process teams. Discuss whether the review is related to development, production, or construction contracts and if the system is restricted to the specific contract or is used throughout the contractor's organization. Indicate whether this contractor applies earned value management to commercial as well as government contracts. Describe the extent of the review, such as whether the entire system was reviewed, or, in the case of a Post-acceptance Review, the system elements under review. Identify the methodology used in conducting the review, indicating such items as range of interviews, depth of review, documents examined, and traces conducted. Team members and their associated responsibilities should be identified in this section.

E. Findings. Identify areas of non-compliance including a complete discussion of condition, cause and effect. These findings can trigger further review and should be documented to support that decision. If there are disagreements within the team, additional documentation to support arbitration should be included.

F. Conclusions and Recommendations. This portion of the report contains any conclusions and recommendations based on review findings. This should include any action items and, if applicable, specify areas needing further review.

G. Exhibits and Appendixes . Individual exhibits will be included only as necessary to support the findings.

Appendix D

Glossary of Terms

The following definitions and acronyms appear within this document.

Actual Cost of Work Performed (ACWP). The costs actually incurred and recorded in accomplishing the work performed within a given time period.

Actual Direct Costs (ADC). Those costs identified specifically with a contract, based upon the contractor's cost identification and accumulation system as accepted by the cognizant Defense Contract Audit Agency (DCAA) representatives (See Direct Costs).

Administrative Contracting Officer (ACO). The individual within the Contract Administration Office (CAO) responsible for ensuring that the functions described in DFAR 242.302 are completed by the contractor in accordance with the terms and conditions of the contract.

Advance Agreement (AA). An agreement between the contractor and the Contract Administration Office concerning the application of an approved earned value management system to contracts within the affected facility.

Allocated Budget. (See Total Allocated Budget)

Applied Direct Costs (ADC). The actual direct costs recognized in the time period associated with the consumption of labor, material, and other direct resources, without regard to the date of commitment or the date of payment. These amounts are to be charged to work-in-process when any of the following takes place: Labor, material, or other direct resources are actually consumed; Material resources are withdrawn from inventory for use; Material resources are received that are uniquely identified to the contract and scheduled for use within 60 days; Major components or assemblies that are specifically and uniquely identified to a single serially numbered end item are received on a line flow basis.

Apportioned Effort (AE). Effort that by itself is not readily divisible into short-span work packages but which is related in direct proportion to measured effort.

Authorization to Proceed (ATP). Official authority for the contractor to begin work. Usually issued by the procuring contracting officer.

Authorized Work. That effort which has been definitized and is on contract plus that effort for which definitized contract costs have not been agreed to but for which written authorization has been received.

Baseline. (See Performance Measurement Baseline).

Bill of Material (BOM). A listing of material items required to complete the production of a single unit. When actual or expected prices are applied, it becomes the Priced Bill of Material (PBOM).

Budget at Completion (BAC). The sum of all budgets established for the contract. (See Total Allocated Budget).

Budgeted Cost for Work Performed (BCWP). (or Earned Value) The sum of the budgets for completed work packages and completed portions of open work packages, plus the applicable portion of the budgets for level of effort and apportioned effort.

Budgeted Cost for Work Scheduled (BCWS). (or Planned Value) The sum of the budgets for all work packages, planning packages, etc., scheduled to be accomplished (including in-process work packages), plus the amount of level of effort and apportioned effort scheduled to be accomplished within a given time period.

Contract Budget Base (CBB). The negotiated contract cost plus the estimated cost of authorized unpriced work.

Contract Administration Office (CAO). The organization assigned responsibility for ensuring that the contractor complies with the terms and conditions of the contract.

Contract Data Requirements List (CDRL). A compilation of all data requirements which the contractor is obligated to submit to the government.

Contract Work Breakdown Structure (CWBS). The complete work breakdown structure for a contract. It includes the DoD approved work breakdown structure for reporting purposes and its discretionary extension to the lower levels by the contractor, in accordance with MIL-HNDBK 881(latest version) and the contract work statement. It includes all the elements for the hardware, software, data or services which are the responsibility of the contractor.

Contractor. An entity in private industry which enters into contracts with the Government. In this guide, the word also applies to Government-owned, Government-operated activities which perform work on major defense programs.

Contractor Performance Measurement (CPM) Monitor. That person within the CAO assigned responsibility for ensuring the proper and continuing implementation of the approved integrated management system on contracts where its application is required.

Control Account (formerly called Cost Account) - A management control point at which budgets (resource plans) and actual costs are accumulated and compared to earned value for management control purposes. A control account is a natural management point for planning and control since it represents the work assigned to one responsible organizational element on one program work breakdown structure element.

Cost Accounting Standards (CAS). Established by the Cost Accounting Standards Board (CASB) to ensure consistent and proper accounting for direct and indirect costs applied to government contracts.

Cost Performance Report (CPR). A contractually required report, prepared by the contractor, containing information derived from the internal EVMS. Provides status of progress on the contract.

Cost/Schedule Status Report (C/SSR). A performance measurement report established to provide information on smaller contracts.

Cost Variance - A metric for the cost performance on a contractor program. It is the algebraic difference between earned value and actual cost (Cost Variance = Earned Value - Actual Cost.) A positive value indicates a favorable position and a negative value indicates an unfavorable condition.

Critical Path Analysis - See Network Schedule.

Defense Contract Audit Agency (DCAA). The organization tasked with monitoring a contractor's design and implementation of an acceptable accounting system.

Direct Costs. Any costs that may be identified specifically with a particular cost objective. This term is explained in the Federal Acquisition Regulation (reference (ff)).

Discrete Effort - Tasks which are related to the completion of specific end products or services and can be directly planned and measured. (Also may be known as work packaged effort.)

Earned Value - (or Budgeted Cost for Work Performed) The value of completed work expressed in terms of the budget assigned to that work.

Earned Value Management System (EVMS). An integrated management system which uses earned value to measure progress objectively.

Earned Value Management System Criteria. The set of 32 statements, established by DoD 5000.2R, which define the parameters within which the contractor's integrated cost/schedule management system must fit.

Estimate at Completion (EAC). Actual direct costs, plus indirect costs allocable to the contract, plus the estimate of costs (direct and indirect) for authorized work remaining.

Estimate to Complete (ETC). That portion of the EAC that addresses total expected costs for all work remaining on the contract.

Indirect Costs. Costs which, because of their incurrence for common or joint objectives, are not readily subject to treatment as direct costs. This term is further defined in FAR 31.203.

Initial Compliance Review. A government review done at a contractors facility to assess contractor application of EVMS principles.

Integrated Management System (IMS). The management system and related sub-systems which establish the relationship between the cost, schedule and technical aspects of the work, and to measure progress, accumulate actual costs, analyze deviations from plans, forecast achievement of milestones and completion of contract events and incorporate changes to the contract in a timely manner.

Letter of Delegation (LOD). A document assigning contract administration functions from one CAO to another, usually in a prime-subcontractor relationship.

Level of Effort (LOE). Effort of a general or supportive nature which does not produce definite end products.

Management Reserve (MR). An amount of the total allocated budget withheld for management control purposes rather than designated for the accomplishment of a specific task or set of tasks. It is not a part of the Performance Measurement Baseline.

Negotiated Contract Cost (NCC). The estimated cost negotiated in a cost-plus-fixed-fee contract or the negotiated contract target cost in either a fixed-price-incentive contract or a cost-plus-incentive-fee contract.

Network Schedule - A schedule format in which the activities and milestones are represented along with the interdependencies between activities. It expresses the logic of how the program will be accomplished. Network schedules are the basis for critical path analysis, a method for identification and assessment of schedule priorities and impacts.

Organizational Breakdown Structure (OBS). A functionally-oriented division of the contractor's organization established to perform the work on a specific contract.

Overhead. (See Indirect Cost definition.)

Performance Measurement Baseline (PMB). The time-phased budget plan against which contract performance is measured. It is formed by the budgets assigned to scheduled control accounts and the applicable indirect budgets. For future effort, not planned to the control account level, the performance measurement baseline also includes budgets assigned to higher level CWBS elements, and undistributed budgets. It equals the total allocated budget less management reserve.

Performing Organization. A defined unit within the contractor's organization structure, which applies the resources to perform the work.

Planned Value - see Budgeted Cost for Work Scheduled

Planning Package (P/P). A logical aggregation of work within a control account, normally the far-term effort, that can be identified and budgeted in early baseline planning, but can not yet be defined into work packages.

Post-acceptance Review. A government review performed on a specific element of the contractors EVMS system, that has displayed a lack of discipline in application or no longer meets the intent of the EVMS Guidelines.

Procuring Activity. The subordinate command to which the Procuring Contracting Officer (PCO) is assigned. It may include the program office, related functional support offices, and procurement offices.

Program Work Breakdown Structure (PWBS). The work breakdown structure (WBS) that covers the acquisition of a specific defense materiel item, is related to contractual effort, and includes all applicable elements consisting of at least the first three levels which are then extended by the DoD Component (program manager) and or contractor(s).

Replanning. The redistribution of budget for future work. Traceability is required to previous baselines and attention to funding requirements needs to be considered in any replanning effort.

Responsibility Assignment Matrix (RAM). A depiction of the relationship between the Contract Work Breakdown Structure elements and the organizations assigned responsibility for ensuring their accomplishment.

Responsible Organization. A defined unit within the contractor's organization structure which is assigned responsibility for accomplishing specific tasks

Schedule - A plan which defines when specified work must be done to accomplish program objectives on time.

Schedule Variance - A metric for the schedule performance on a program. It is the algebraic difference between earned value and the budget (Schedule Variance = Earned Value - Budget). A positive value is a favorable condition while a negative value is unfavorable.

Significant Variances. Those differences between planned and actual performance which require further review, analysis, or action.

Summary Effort Control Package (SECP). An aggregation of work for far-term efforts, not able to be identified at the control account level, but which can be assigned to higher level WBS elements (and is therefore not "undistributed budget").

Statement Of Work - The document that defines the work scope requirements for a program.

Third Party Certification - Approval of an EVMS, to a standard recognized by DoD as equivalent to the EVMS Criteria, by an independent organization accredited by the standards authority and recognized by DoD.

Total Allocated Budget (TAB). The sum of all budgets allocated to the contract. Total allocated budget consists of the performance measurement baseline and all management reserve. The total allocated budget will reconcile directly to the contract budget base. Any differences will be documented as to quantity and cause.

Undistributed Budget (UB). Budget applicable to contract effort which has not yet been identified to CWBS elements at or below the lowest level of, reporting to the Government.

Variance at Completion (VAC). The difference between the total budget assigned to a contract, WBS element, organizational entity or cost account and the estimate at completion. $\text{Variance at Completion} = \text{Budget at Completion} - \text{Estimate at Completion}$. It represents the amount of expected overrun or underrun.

Work Breakdown Structure (WBS). A product-oriented family tree division of hardware, software, services, and other work tasks which organizes, displays and defines the product to be developed and/or produced and relates the elements of the work to be accomplished to each other and the end product(s).

Work Package (WP). Detailed jobs, or material items, identified by the contractor for accomplishing work required to complete the contract. A work package has the following characteristics: It represents units of work at levels where work is performed; It is clearly distinguished from all other work packages; It is assigned to a single organizational element; It has scheduled start and completion dates and, as applicable, interim milestones which are representative of physical accomplishment; It has a budget or assigned value expressed in terms of dollars, man-hours, or other measurable units; Its duration is limited to a relatively short span of time, or it is subdivided by discrete value milestones to facilitate the objective measurement of work performed, or it is level of effort; It is integrated with detailed engineering, manufacturing, or other schedules.

Work Package Budgets. Resources which are formally assigned by the contractor to accomplish a work package, expressed in dollars, hours, standards or other definitive units.

APPENDIX E

ADVANCE AGREEMENT

1. The Advance Agreement (AA) between the government and a contractor specifies that the contractor will use an effective Earned Value Management System (EVMS) on the current as well as future contracts of a similar type. The AA documents the government's intent to minimize system reviews. The AA also documents a contractor's corporate commitment to continue to use and maintain the EVMS for current and future government contracts.
2. The AA is executed based on prior system validation or following the successful completion of an Initial Compliance Review and remains in effect indefinitely. The AA will also be used by DOD to provide continued recognition of a contractor's system as complying with the EVMS System Criteria. Finally, an AA should be used to provide a contractor with DOD recognition of a successful self-evaluation systems review. Once executed, the AA may be used by the contractor to demonstrate that they fulfill the requirements for an Earned Value Management System as required by DFARS 252.234-7001.
3. The AA is signed by the cognizant Administrative Contracting Officer (ACO) and a contractor representative at a commensurate level. For example, if the contractor uses a common EVMS throughout a Division, the appropriate contractor representative may be the Division Manager. The corresponding government official in that case would be the Divisional ACO (DACO). Any amendments or changes to the AA, once executed, must be made through the cognizant ACO.
4. A sample AA and a Joint Surveillance Program outline are provided below, **as guides**. In addition to the guidance the following areas should be considered for inclusion in the AA:
 - (a) applicable contractor and government policy and directive references;
 - (b) reference to contractor and government surveillance plans and guidance;
 - (c) the process to follow for system changes;
 - (d) internal coordination requirements for conducting continuing surveillance; and
 - (e) documentation and reporting requirements.
 - (f) documenting "rules of engagement" for resolution of areas of concern that are found through EVMS surveillance.

Neither of the following sample documents are intended to be applied exactly as shown but should be modified to fit the contractor, program and CAO/DCAA requirements and capabilities.

Advance Agreement
between
(Cognizant CAO's name)
and
(Contractor's name, division, location)

Implementation and Maintenance
of
Earned Value Management Systems

This document establishes an Advance Agreement between the *[name of the cognizant CAO]* and *[contractor name, division, location]* regarding the implementation and maintenance of an Earned Value Management System. This agreement specifically addresses *[contractor name, division, location]* use of the *[name of the contractor's EVMS]* to meet the Earned Value Management System Criteria established by the Department of Defense Regulation 5000.2R, Appendix VI.

Whereas, the contractor has demonstrated certain management systems and subsystems as identified in *[Contractor Document that identifies the contractor's EVMS commitment dated (date)]*, and

**(NOTE: FOR CONTRACTOR SELF-EVALUATIONS THE FOLLOWING PHRASE DOES NOT
APPLY)**

The *[Government component]*, by letter dated *[date]*, did recognize the compliance of such systems and subsystems with the EVMS Criteria, then

THE *[NAME OF THE COGNIZANT CAO]* AND *[CONTRACTOR NAME, DIVISION, LOCATION]* AGREE THAT:

(1) Such systems and subsystems which have been recognized as indicated above, together with approved changes thereto, shall apply to future *[specify type of contract; for example, RDT&E, production or both]* contracts, which require compliance with Earned Value Management System Criteria, entered into between the contractor and the Government.

(2) As a result of this agreement *[contractor name, division, location]* agrees to maintain the *[name of the contractor's EVMS]*, as an integrated management system, through an internal surveillance program. *[other means; e.g. Joint surveillance between the CAO, PM, and the contractor, are acceptable but should be specifically identified.]*

**(NOTE: THE FOLLOWING OPTIONAL LANGUAGE IS FOR CAOs USING THE PRIOR-
APPROVAL WAIVER FOR EVMS SYSTEM CHANGES)**

(3) The *[Cognizant ACO]*, under the authority of DFARS clause 252.234-7001[date], agrees to waive the pre-approval requirements for system changes as provided in paragraph [] of DFARS clause 252.234-7001 [date]. Pursuant to DFARS clause 252.234-7001[date] *[CONTRACTOR NAME, DIVISION, LOCATION]* is required to disclose changes to the *[name of the contractor's EVMS]*, to *[Cognizant ACO]*, at least two weeks prior to implementation. This waiver applies to all contracts, both current and future, which contain DFARS clause 252.234-7001 [date].

This Advance Agreement will remain in force indefinitely, subject to modification by mutual agreement or termination by either party.

Corporate/Division Administrative Contracting Officer (CACO/DACO)

Contractor Vice President and General Manager
(or equivalent)

**JOINT SURVEILLANCE PROGRAM
AS IMPLEMENTED AT
[Contractor's Name, Division, Location]**

References: (a) Rules of Engagement

I. CHARTER AND OBJECTIVES:

The Joint CAO and [contractor name, division, location] Surveillance Team is established to:

A. Ensure that [contractor name, division, location]' implementation of [name of the contractor's EVMS] continues to:

1. Be used by the contractor for program management and is integrated into the contractors scheme of risk identification and abatement.

2. Comply with the EVMS Criteria by:

a. Training designated program personnel in the use of the [name of the contractor's EVMS]

b. Accomplishing early, comprehensive planning to provide a quality baseline ready for examination in the Integrated Baseline Review (IBR) process.

c. Integrating cost, schedule and technical planning into a single, well controlled performance measurement baseline.

d. Establishing clear lines of authority and responsibility for accomplishment of work elements.

e. Using problem identification information early, and continuously, to formulate corrective action/work around plans to mitigate significant variances from the baseline plan.

f. Providing valid and timely management information.

B. Encourage continuous improvement and innovation.

C. Ensure that [contractor name, division, location]'s external cost and schedule reports contain:

1. Information that depicts actual conditions.

2. Information derived from the same database as that used by [contractor name, division, location] for management of the business.

3. Variance analyses that include corrective action in regard to cost, schedule, technical, other problem areas; as well as proposed date for cost and schedule recovery.

D. Maintain a disciplined management process using EVMS, including effective teamwork between [contractor name, division, location] and the Government.

E. Effectively communicate surveillance findings/results to appropriate [contractor name, division, location] and Government individuals and follow up to assure early correction of system problems.

F. Maintain metrics to determine the effectiveness of the performance measurement system and to distinguish between systemic and non-systemic problems.

G. Reduce the cost of surveillance by combining resources to achieve common goals.

II. JOINT SURVEILLANCE PROCESS:

A. Earned Value Management System. Surveillance emphasis of the [*Contractor's name, division, location*]'s accepted system occurs in five principal areas:

1. Demonstrated use of EVMS data in as an integral part of program management.
2. Demonstrated commitment to continuous EVMS improvement.
3. Early identification of systematic problems.
4. Maintenance of the [*name of the contractor's EVMS*].
5. Effective and responsive corrective action.

B. Surveillance is not an audit function. It is a cooperative effort between the surveillance parties and the Cost Account Managers (CAMs) toward the shared goal of timely identification and correction of problems.

C. Joint Surveillance Team. The team will consist of individuals from [*Contractor's name, division, location*], CAO, and DCAA (Where appropriate).

D. Communications. [*Contractor's name, division, location*], and CAO management recognize the Joint Surveillance Team as an integral part of the EVMS system and communicate openly with this team. Joint surveillance results will be a topic of discussion at periodic management meetings. [*Contractor's name, division, location*] provides access to data generated from the performance measurement system and keeps the Joint Surveillance Team advised, via the CAO CPM Monitor, of planned or actual changes that would impact the [*name of the contractor's EVMS*], such as software tools, key personnel changes, organization structures. Changes are normally discussed at the periodic program reviews. Changes of underlying systems will be specifically identified when planned.

E. Surveillance Schedule. The Joint Surveillance Team will establish a surveillance schedule with periodic meetings for the review of EVMS metrics, results from program surveillance activities, results from CPR analysis, results from IBRs and concerns of the Government Program Office. The “Rules of Engagement” document (ref. (a)) will outline how findings from surveillance will be documented and conflicts resolved.

F. Reviews: Data collected through surveillance and open areas of concern from IBRs and Government Program Offices will be used as inputs to the review process. Targeted reviews are conducted by team members (consisting of contractor/Government mix) when surveillance activities point to areas where EVMS compliance indicators are no longer within acceptable limits and other inputs point to areas of concern. The “Rules of Engagement” document (ref. (a)) will outline how findings from reviews will be documented and conflicts resolved.

This Joint Surveillance Program will remain in place indefinitely, subject to modification by mutual agreement or termination by either party.

CAO Team Chief

Contractor EVMS Manager

Appendix F

MODEL MEMORANDUM OF AGREEMENT BETWEEN CAO AND THE COMPONENT PROGRAM MANAGER WITH RESPECT TO SURVEILLANCE OF INTEGRATED MANAGEMENT SYSTEMS

(IMPORTANT NOTE: This Memorandum of Agreement (MOA) is for guidance purposes only. It is intended to provide assistance in ascertaining that all of the appropriate aspects of Earned Value Management System (EVMS) surveillance are encompassed in the preparation of a specific surveillance plan. It is not intended that this MOA provide a mandatory, required format in any respect.)

1. Purpose.

The purpose of this MOA is to establish the responsibilities of the (component program manager) and the (CAO) with respect to CPM surveillance under all contracts issued by the (component program manager). The agreement is based upon the policy and objectives of Part 2 Section 3 of the EVMS Implementation Guide and DLAH 5000.4, Section VI-10.

2. Scope.

This agreement describes the responsibilities and working relationships between the CAO and the program manager, and the activities necessary to assure continuing effective contractor control, use, and reporting of cost, schedule, and technical performance within the purview of the EVMS requirements. This agreement is applicable to all (component program manager) contracts performed at (Company), located in _____, which incorporate EVMS requirements.

3. Responsibilities.

a. Program Manager:

(1) Provide overall management of the acquisition program, including support of the surveillance team to assure continued contractor compliance with the EVMS.

(2) Provide routine feedback to the CAO on quality and utility of system surveillance efforts.

(3) Ensure that the CAO is kept fully informed of pertinent program events, to include appropriate communications between the program manager and the contractor. Program awareness is necessary so that the CAO may be fully effective and responsive in providing the required support at all times.

(4) Request any problem analysis required beyond the scope of this MOA. Such requests will be addressed to the CAO.

(5) Provide required specialized technical support needed for effective accomplishment of the surveillance program as requested.

b. CAO:

(1) Provide overall assurance that the contractor's integrated management system continues to meet the requirements of the EVMS guidelines.

(2) Develop and implement a joint surveillance plan which provides the details for accomplishing system surveillance and maintenance consistent with this MOA.

(3) Ensure the surveillance plan is a living document and continues to provide a framework for effective EVMS surveillance.

(4) Provide specialized support or problem analysis as agreed to in this MOA.

(5) Keep the program manager advised of the status of contractor's integrated management system and EVMS related activities.

(6) Maintain records and submit reports as required by this MOA.

(7) Review and evaluate within 30 days of submittal, proposed contractor integrated management system changes to assure EVMS compliance. If an ACO waiver to pre-approval of changes is granted, review changes and establish surveillance to ensure system integrity is maintained.

(8) Provide team member support, as available, for Integrated Baseline Reviews when requested by the procuring activity.

(9) Develop "Rules of Engagement" to effectively resolve EVM issues with the contractor and program office.

4. Surveillance Plan Framework. (Details to be mutually determined by the program manager and CAO in coordination with DCAA) May include all or part of the following:

a. Assure continuity, consistency, quality, and usefulness of the system in operation. This includes the following:

(1) Assuring contractor commitment to EVM as a business practice, including effective surveillance.

(2) Assuring that the contractor's accepted integrated management system is, in fact, being used by the contractor to manage the program. (e.g. - Attendance at routine contractor management program status meeting.)

(3) Evaluating contractor generated changes to the system to ensure continued compliance with the criteria.

(4) Insuring that system discipline and integrity are maintained.

b. Monitor the contractor's corrective actions resulting from surveillance findings and concerns.

c. Perform continuous analysis of the contractor's EVMS to ensure system integrity. Frequency and level of detail shall be consistent with contract risk. (e.g. - Compare CPI vs TCPI for WBS element EACs, compare schedule variance vs time based schedules for schedule accuracy)

d. Informing the contractor and program manager of any uncorrected deficiencies which affect overall integrity of the contractor's system.

e. Performing periodic evaluations of contract estimates at completion. Generate, when appropriate, independent EACs for submission to the program office and higher headquarters.

f. Receive, evaluate, reconcile, and process external contractor performance and financial reports, e.g., Cost Performance Reports, Contract Funds Status Reports, Contractor Cost Data Reporting, etc. Verify that data is submitted in accordance with the reporting requirements.

5. Records Maintenance.

The CAO will establish and maintain a central file for all pertinent data and correspondence regarding the EVMS program. The CAO will assure that the file contains updated regulatory and guidance material pertaining to the program. The file, as a minimum, will contain copies of all correspondence with the contractor and program manager, system description, changes to the system, memoranda of meetings, monthly surveillance reports/activities, reconciliation's of appropriate reports from the Contract Data Requirements List, and deficiency situations requiring corrective actions. . Surveillance records shall be maintained until program completion and then forwarded for inclusion in the official contracts file. Electronic files are acceptable and encouraged.

6. Surveillance Review Meetings Between Program Manager, CAO, and DCAA.

(This section will provide for both scheduled and unscheduled joint meetings pertaining to the EVMS surveillance program.)

7. Terms of Agreement.

This agreement is effective upon signature by all parties. It is intended to remain in force for the duration of the specified contract(s). However, the terms of this agreement are subject to change at any time by mutual consent of the parties hereto.

APPROVED:

APPROVED:

CAO Chief

Component Program Manager